The RHODE ISLAND MEDICAL JOURNAL

Editorial and Business Office: 106 Francis Street, Providence, R. I.

Editor-in-Chief: JOHN E. DONLEY, M.D.

Managing Editor: JOHN E. FARRELL

Owned and Published Monthly by

THE RHODE ISLAND MEDICAL SOCIETY

Entered as second-class matter at the post office at Providence, Rhode Island

Single copies, 25 cents . . . Subscription, $2.00 per year.

Volume XLI, No. 12 December, 1958

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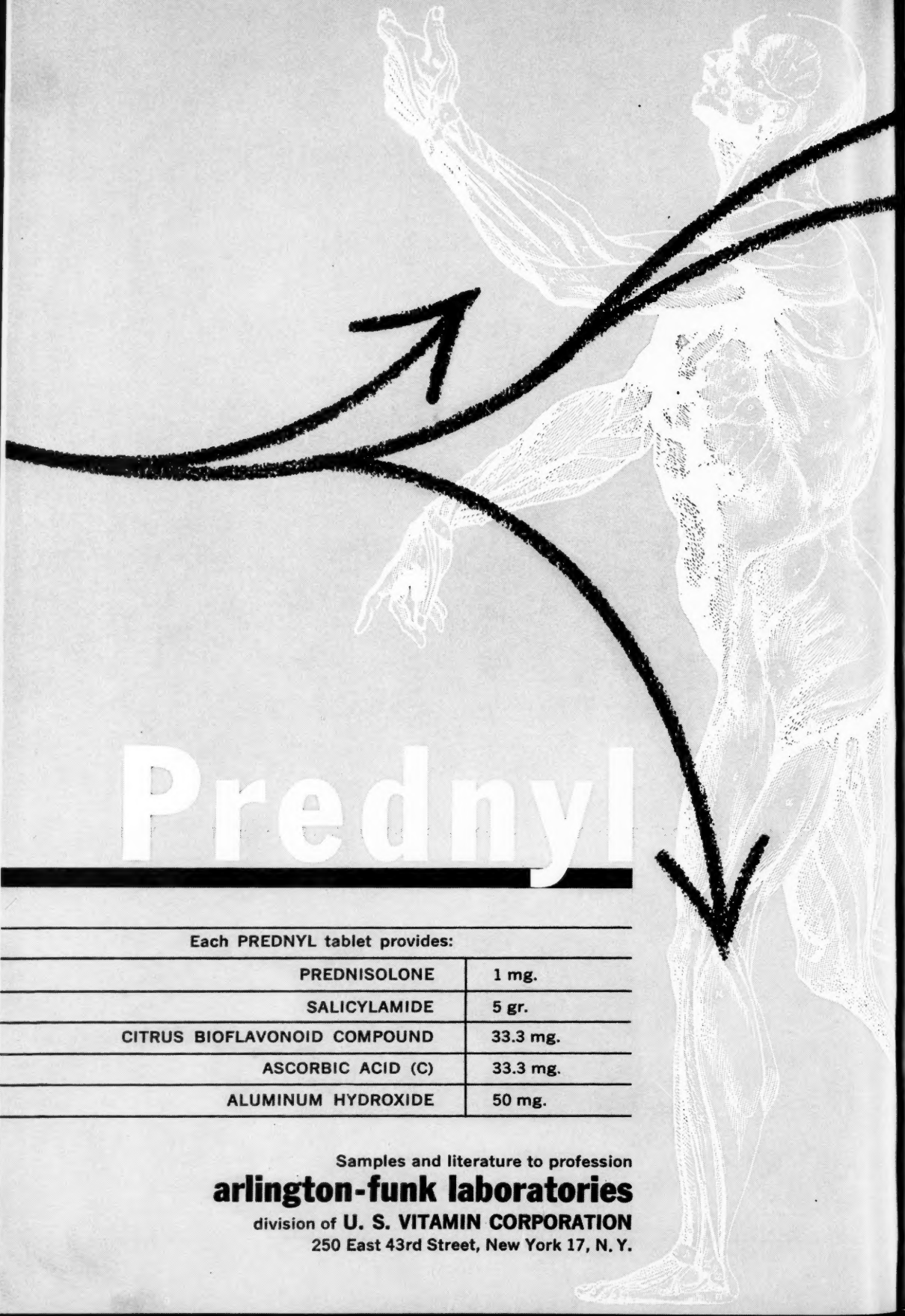

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The RHODE ISLAND MEDICAL JOURNAL

VOL. XLI DECEMBER, 1958 NO. 12

PREVENTION AND TREATMENT OF CARDIAC EMERGENCIES*

A Panel Discussion

J. SCOTT BUTTERWORTH, M.D., JAMES V. WARREN, M.D., ALLAN FRIEDLICH, M.D., AND LOUIS DEXTER, M.D.

J. SCOTT BUTTERWORTH, M.D., *Moderator*
Associate Professor of Medicine,
New York University Postgraduate Medical School

THE SUBJECT of cardiac emergencies is a difficult one, because no two people can agree on what a cardiac emergency really is. The patient has one idea and we may have varied ideas about it. To start the discussion, we are going to talk about myocardial infarction.

I am going to propose a sort of hypothetical question to our panelist Doctor Warren who is, for this occasion, specializing in myocardial infarction.

This is something that actually happened to me a year or so ago, when I was playing golf on Long Island. I was playing with a gentleman about sixty-five years old, whom I had never taken care of, but rumor had it that he had suffered a previous myocardial infarction. On the 18th hole, fortunately near the club house, he made the shot to the green and said he didn't feel well. I looked at him, and he didn't look well. I suggested that we walk slowly into the club house. By the time we got there he was gray, drenched with perspiration, complaining of pressing, precordial pain radiating down the inner aspect of both arms; a rather typical picture of some kind of an acute myocardial episode.

When we got him stretched out, I took his pulse, which was regular and, as far as I could tell, was around 170 to 180.

Now this, to me, constitutes a cardiac emergency, when you are in the club house locker room, with curious bystanders around and a man who has a pulse of 170 or 180, drenched with perspiration and as gray as the floor.

What do you do under these circumstances? I will eventually tell you what I did, but let us see what Doctor Warren would do under these circumstances.

*Presented at a Joint Meeting of the Providence Medical Association and the Rhode Island Heart Association, at Providence, Rhode Island, April 7, 1958.

JAMES V. WARREN, M.D., *Professor of Medicine,*
Duke University Medical School, North Carolina

Maybe I ought to call a doctor! But, I guess I can't get by with that answer.

I think that several problems are confronting you in this sort of situation. Fortunately, we aren't personally faced with them very frequently.

Did this man actually have a myocardial infarction? Or did he have some form of paroxysmal tachycardia that was already decompensating?

My first thoughts about the man would be along these two lines. Undoubtedly there are other possibilities. He might have a dissecting aneurysm, or what-not.

I would try to reassure the patient and the people around him. I don't think I would try to do this chemically, so much as I would do it by word of mouth. I am a strong believer in the possibility of scaring a patient to death, and I think that this is one of the situations where it might well be possible. He has already demonstrated that he has something peculiar about his cardiac mechanism. He is already having some pain.

I think I would do what I could do to relax him. As I say, I would do it primarily verbally, and in addition, I would turn to chemical sedation, if available. One of the morphine derivatives would be my choice, I believe.

I would be concerned about his rhythm, and how much this was playing in the immediate situation. I wonder whether or not Doctor Butterworth wants me to press on his carotid sinus?

One of the things I should like to know is, what kind of arrhythmia was it? Was it a rhythmical atrial tachycardia or a more serious kind?

By simple auscultation, this can be differentiated. I think this is one of the things we should try to do, if a stethoscope were available.

The fact that this man is clammy and cold raises the question of shock. Do I want to do anything about it at this point? Not particularly. But, eventually, and as soon as possible, I would like to get him to a hospital, where he can have proper medical

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care. However, at this moment, I think his position is the most important treatment, and he should remain in the horizontal position.

I may say the first two things I would now turn my attention to are:

1. Relaxation of his psyche.
2. A decision regarding the mechanism of his heart beat, and whether there was anything I might do about it from the point of carotid sinus pressure.

I think, for the moment, I will leave the matter there.

Moderator Butterworth: I will tell you what I did. I have no particular pride in this, because I have long since learned that all kinds of people know more about treating cardiac emergencies than I do, and I am firmly convinced that the general practitioner, who faces these emergencies day in and day out, has a better grasp of this subject than I have.

I summed the situation up in my mind, considering what his past history was. I felt that very likely he had had a closure of some coronary branches or something of the sort, which had given him ischemia, and he had developed a tachycardia.

I was unable to differentiate this, and this differentiation is something which Doctor Warren mentioned and to which we may return; but I was very smart. I put in a call for the local practitioner, and said to him:

"You watch him; I'm going to get his wife."

And, you know, that is the best way you can treat some emergencies. Find an excuse to get away. By the time I got back with his wife, the local practitioner, a very capable man, had arrived, took one look at him, pressed on his neck; he was converted to normal rhythm, sitting up and feeling fine!

I have brought this case up as an example, simply because I don't think it is very common to see supra-ventricular tachycardias, under these circumstances, that are so easily converted.

It may be that my experience is limited. But, I thought about this possibility, and, frankly, I was afraid of the way he looked. I was thinking about the trouble I might get into by compressing his carotid and cutting off more of the cerebral circulation.

This is the crux of the matter. I brought it up to raise the question whether it is dangerous to press on the carotid or whether one's chances of success are such that one should do so.

This patient has gone along finely since that time. He has had two or three attacks since. I am very brave about it, and I now press on his carotid!

Doctor Warren: I would like to reiterate what you say. I too feel a little uneasy about making a decision. The people in the audience see many more of these emergencies than we do. I am amused to recall Doctor Louis Katz speaking under similar conditions and pointing out that really, to transpose it to other terms, he was the wholesaler of medical methods, while the people in the audience were the retailers. They took it to the patients. And I think that is right.

I will propose one of my pet ideas from this. For many years, we have been interested in syncope and various forms of unconsciousness. I would say that whether pressing on his carotid sinus is dangerous is, to a large degree, dependent on how you press on the sinus.

In this regard, I am a very gentle soul. I shudder to see many of my colleagues press on the sinus. They practically sit on the patient's neck, with great force, and I am sure, completely occlude the carotid flow on the involved side, and the worst of it is that they do it bilaterally.

My impression is that if pressure is going to work, it is going to work from relatively mild manual stimulation of the carotid sinus.

Many times, it won't work. I will certainly admit that. I would make my plea, primarily, for mild pressure. It should not be obstructive pressure. If it is carried out in this way, I think it is reasonably safe, and in the situation that you have described, where everything hinged on quick action, this probably was the right thing to do.

LOUIS DEXTER, M.D., ***Assistant Professor of Medicine, Harvard Medical School; and Physician, Peter Bent Brigham Hospital, Boston***

Now that I know the answer, it is very easy to make a comment.

I think that when the patient has a pulse rate of 180, one can very well deduce that his disability is on the basis of the tachycardia.

Therefore, in retrospect, the obvious thing to do is to press on the carotid sinus, and see if the rate will slow down.

I share, in a way, Doctor Warren's opinion of the danger of pressing on the sinus, but I don't feel very strongly about it. I have pressed on an awful lot of people's sinuses without causing any trouble.

On the other hand, as you all know, from so doing, there may be serious complications.

In general, these are going to be the result of pressing on both sides at the same time, or (as it were) leaving the thumb on the neck five minutes or so, while you go out to make a telephone call. I do not feel that there is any particular danger if strong pressure is applied for only a few seconds and I believe that it is frequently a very important therapeutic procedure.

ALLAN FRIEDLICH, M.D., ***Instructor in Medicine, Harvard Medical School; and Associate Physician, Department of Cardiology, Massachusetts General***

Hospital, Boston

I think that I would go along with Doctor Dexter and say that when needed in this sort of emergency, hard pressure is sometimes effective, while gentle pressure is not. I like, however, to insist that the stethoscope be on the patient's chest at the time I am pressing, so that at the first break in the rhythm, I can take my thumb away.

Moderator Butterworth: Well, let us go on. We will come back to some of these points later. Another patient had an acute infarct seven days previously, and went into a very fast rate. I think that rhythms of this sort, in a patient who has had a recent acute myocardial infarction, always are a source of worry. We weren't entirely sure what the nature of this rhythm was, so we did an esophageal lead. This demonstrated that we were dealing with a complete dissociation between the atria and the ventricles.

This is the next point I would like to put to Doctor Warren. Here is a sort of a semi-acute emergency. What do you do under these circumstances?

Doctor Warren: I think if you take it as a rule of thumb, to which there are many exceptions, that the various arrhythmias can be treated with digitalis, and you won't go too far wrong.

If I grasp the situation, the difficulty was with the ventricles, so that it is the one major situation that we meet where digitalis is not the most desirable drug, and therefore, I would probably turn to quinidine.

Now in my own experience, I don't find that parenteral quinidine is frequently a useful drug. I mean by that that you can usually do the job with oral medication, and I think it has a larger margin of safety.

However, there are situations, and this may have been such an instance, where parenteral quinidine is useful. I should think, however, that oral medication would probably be the treatment of choice here, and I would stick to oral quinidine.

Moderator Butterworth: I think that that is a very wise decision, because that is what we did, and he converted quite rapidly. Whether it was the quinidine or not, I don't know, but he converted rapidly and the rest of his convalescence was uneventful.

Doctor Warren: I don't want to come back unnecessarily to this point, but the real problem, as I see it, is not so much whether to use digitalis, quinidine or nothing; the real problem is to decide what we are dealing with. If we know it is ventricular tachycardia, then we know what to do.

If I may turn the tables on the moderator and get him to tell us what he would do to make this decision without the electrocardiogram, or, if he thinks that the electrocardiogram is the only way of making a decision of this sort, given a patient, we will say, with a history of coronary artery disease, and a situation where ventricular tachycardia is a real possibility, but where of course, we have to differentiate from the supra-ventricular type.

Moderator Butterworth: I have not been very well satisfied with my own ability to differentiate these things. First of all, carotid pressure is one way. They will either convert or they will not. If they do not convert, you may think it is not a supra-ventricular type of tachycardia.

Secondly, by auscultation. Whenever you have independent rates, you get a change in the intensity of the sounds, particularly the first heart sound, and I would say this is one place where auscultation is practically as good as the electrocardiogram.

When you get into the very fast rates, you will find that it is extremely difficult, with respiratory variations, the emotions, the noise, etc., to be absolutely sure, in your own mind, as to what you are dealing with.

Therefore, whenever we are faced with this sort of problem, we take all the regular leads and if we aren't entirely sure of what we are doing, we do the esophageal lead. We don't do many of them, but only when there seems to be a reasonable indication. I think the point is a good one: the real emergency is finding out exactly what you are dealing with, because then the treatment isn't too hard, when you know what the problem is.

Doctor Warren: We know that ventricular tachycardia is more common with coronary artery disease, and then there are the signs on physical examination, the intensity of the first heart sound, and there is the effect of carotid sinus pressure, which may completely stop attacks of paroxysmal auricular tachycardia. Finally, there is the electrocardiogram, which completes the battery of tests to apply to this type of patient.

Doctor Dexter: What do you do when none of these shows what you are dealing with?

Moderator Butterworth: Even with an esophageal lead?

Doctor Dexter: Even then, under these circumstances the question arises as to whether to give quinidine or digitalis, or something else.

Which is the more toxic compound? Quinidine, or digitalis?

I, for one, think that quinidine and pronestyl hydrochloride are less toxic than digitalis in this situation. If the patient has already had digitalis the administration of more may produce the irreversible state of ventricular fibrillation.

Under these circumstances, I like to give all drugs parenterally. I give pronestyl i.v., with the electrocardiogram being recorded continuously,

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and if the patient shows toxic manifestations without relief of the tachycardia I am prone, then, to try to control the tachycardia with a rapidly acting digitalis preparation.

I must say that it makes my hair stand on end to do these things. It hasn't happened very often, but occasionally, it has.

Doctor Warren: I agree with you, that if I cannot make up my mind, I think under most circumstances, quinidine would be the drug of choice.

Somehow or other, this is an emotional decision. I am a little more impressed with quinidine than with pronestyl. Pronestyl is easier to work with and it may be the drug of choice under these circumstances.

Another factor about the use of digitalis is the terrible things we are told can happen, if we combine it with quinidine for ventricular tachycardia. Most of us would stop using the drug if we paid too much attention to what we hear. But I don't think that if this unrecognized tachycardia turned out to be ventricular tachycardia, the use of both drugs would be lethal. Reluctantly, I will agree with Doctor Dexter, and I think that I would use quinidine, too.

Doctor Friedlich: I am interested to know why you use quinidine, in preference to a procaine derivative under the circumstances that we were told about here; namely, a fellow who has a fresh myocardial infarct, and gets a rapid ventricular tachycardia. This, I suppose, qualifies as a cardiac emergency as much as any we are going to talk about here.

Admittedly, there are some people with fresh myocardial infarcts, and ventricular tachycardia, who seem to bear up under it pretty well. Under those circumstances, I suppose that I, too, would think about the possibility of using quinidine. But, what do you do when you give quinidine? What sort of a program would you put him on?

Doctor Warren: This all depends upon the kind of situation with which you are dealing. I was under the impression that Doctor Butterworth described what was a semi-emergency. Then, I think I would use quinidine.

If this were really an emergency you described, I think I would certainly have no hesitation in going to parenteral therapy, and there the choice as I see it is not great. But, there is one operating principle that comes up here which I think will probably appear in several of our other discussions.

Moderator Butterworth: Let me interrupt you here. The point I want to make is that both quinidine and pronestyl are toxic drugs, especially when given to a cardiac patient who is already failing. One must be extremely careful not to overdo their use, because then the heart loses all response.

Doctor Warren: This really adds up to what I was going to say. These are difficult drugs to use. None of us, fortunately, has to use them every day. I think the principle of the choice is that it is best to have certain of your own favorites, and to learn about these drugs thoroughly. You don't have to be really a Jack-of-all-Drugs.

I should think that in general, with some exceptions, it would be better to be familiar with the use of parenteral quinidine or pronestyl and use that drug; you probably would do better than the person who switches back and forth.

Doctor Dexter: A patient with paroxysmal ventricular tachycardia, going down hill, in shock, is obviously going to die from it, and there is only one thing to do, as far as I am concerned, and that is to give either quinidine or pronestyl up to the point where either the patient reverts to a normal sinus rhythm or dies.

This is an unfortunate situation. It is rare, but it is an unhappy position in which physicians sometimes find themselves. One knows that the next dose, or the one thereafter, will either be fatal or will control the tachycardia. Let me emphasize that such vigorous treatment should be reserved for those whose tachycardia appears potentially fatal.

Doctor Friedlich: I should like to put in a plug for the other side, and particularly for the use of quinidine. I have seen several patients for whom death seemed inevitable unless the normal rhythm could be restored.

On a number of occasions I have given quinidine until the blood pressure sank to worrisome levels, the Q.R.S. complex became very wide, and the patient started to have bursts of ventricular premature beats and short runs of ventricular tachycardia from the quinidine. I was sure I couldn't give another dose and stayed around until the blood level of quinidine should have been declining. I was sunk because quinidine had failed, only to find on the following morning, the rhythm was normal.

There is a time element involved in the action of this drug. The action is not related to the plasma level alone. This has happened sufficiently often so that I am very much impressed by it.

Doctor Dexter: I agree with you. That does occur with quinidine. There is often a dissociation between the plasma level of quinidine and its effect in reverting the rhythm to normal sinus.

Acute Myocardial Infarction

Moderator Butterworth: Let us finish off myocardial infarction, so that we can go to some other things.

Doctor Warren, will you say a word about the use of digitalis in heart failure, with acute myocardial infarction.

Doctor Warren: I would say that first of all, the presence of congestive heart failure, in 99 cases out of 100, is an indication for digitalis therapy, obviously excluding occasions when digitalis toxicity is already present.

In patients with myocardial infarction who have congestive heart failure, I would go ahead and digitalize them.

Now, the main argument against doing this is the danger of an increase in the arrhythmic tendency of the patient's myocardium. He is already susceptible, by the fact of having an infarction, to the development of dangerous and fatal arrhythmia.

There seems to be little question that you can enhance irritability with digitalis. I would not want to be trigger-happy in giving the digitalis; I would want to have evidence that I am apt to get into trouble from congestive failure before I would use it.

If there is, in addition, evidence of arrhythmia, multiple premature beats or something of that sort, then I am not afraid to go ahead with therapy such as quinidine, aimed at the myocardial irritability.

I would say, in general, that I would treat congestive heart failure, as I would treat it in other situations, by digitalis. I am not including in this the development of shock. We may want to discuss this as a separate entity.

Doctor Dexter: I would like to put a word in here. Doctor Warren is going to give quinidine and digitalis, one to increase and the other to decrease irritability. Why bother to give anything at that point?

Doctor Warren: I think I am protected by the fact that these drugs have multiple actions. I never can completely understand some of them. I think I would give the digitalis for the well-known actions of this drug on the failing heart, and I would give the quinidine, not for its action in that regard, but in spite of its action on the muscle, to decrease the myocardial irritability.

I say myocardial irritability, and I cringe a little bit. I am talking about the tendency of these people to have arrhythmia. As I said a few moments ago, it has been my personal experience that under these circumstances these two drugs in combination are not so bad as one is led to believe by reading the pharmacological text-books.

Doctor Dexter: I was going to ask you if you feel digitalis is very effective during the acute phase of myocardial infarction.

Doctor Warren: Well, it is often hard, in a patient treated with bed rest, etc., to decide about the effectiveness of digitalis. We think there are other things that are important in congestive failure.

My feeling, from viewing patients, is that digitalis does something that is useful under these circumstances.

Moderator Butterworth: Let us come back to this later on, and go ahead with the treatment of shock.

Doctor Warren: Although I think that shock, in myocardial infarction, is predominantly a manifestation of heart failure, yet it isn't typical of congestive heart failure; it may be combined with some of the well-known manifestations of pulmonary edema; but the development of shock in myocardial infarction is the result of inadequate pumping action by the heart. The cardiac output is low; the blood pressure, of course, is low, and this has a bad effect in several ways.

First, certain vital areas are not getting adequate blood flow; there is difficulty in postural adaptation, and finally, and probably very important, the perfusion pressure available to the coronary arteries is diminished.

So that I would say, as a generalization, that the real advance in therapy, in this situation, is the use of the pressor drugs, epinephrine and others. This is one form of shock where I think these drugs are really useful and beneficial.

Here again, we are dealing with dangerous drugs that may cause difficulty on the systemic side from their pressor action and we may have some pretty bad difficulties, locally, due to their vasoconstrictive action and the effect of getting the solution out of the blood vessels.

I never was enthusiastic about the use of blood transfusions in the therapy of shock, related to myocardial infarction, and I think that the results bear me out in this.

I feel reasonably encouraged about the general use of the pressor drugs of the epinephrine type. I think they can be over-used like many drugs.

Doctor Friedlich: When do you decide to start them?

Doctor Warren: This is the problem with all drugs. When do you decide that congestive failure is present? When do you decide that shock is present?

I don't know, really, a definition of shock that is entirely satisfactory. I would just say that with a small amount of hypotension, unaccompanied by evidence of diminished blood flow to the extremities, and in the easily measured areas of the body, I would not want to use the drug. When I feel that there is a diminished blood flow to at least some parts of the body that are important, and if the pressure has fallen low enough that I am worried about impaired coronary perfusion, when there is a systolic pressure of 80 or 90 or below, I would start the drug. I wouldn't be too eager to do it.

One final point is that in the acute situation, comparable to that in the locker room, remember that vasodepressor shock, vasodepressor fainting, are first cousins to the kind of shock that we are

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talking about; they look exactly like it. One needs time to decide how to treat it.

Again, I wouldn't be too eager to get the bottle, but I would watch the situation for a period of time.

Vasodepressor shock, syncope, I should say, often has its own little trade-mark, and that is the bradycardia which goes along with it. If you find this in an acute episode, it may be the tip-off that syncope is what you are dealing with.

Moderator Butterworth: I think probably all the panel would agree that the most important thing is to watch what is happening to the blood pressure, and as long as it is maintaining itself, one does not need to use vasopressor agents. It is only when it is falling consistently over a period of time, that one need undertake treatment with pressor drugs.

One of my pet peeves is that so many people talk about the low blood pressure in myocardial infarction. My own experience is that, regardless of the question of shock, the blood pressure is apt to be quite low anyway. No one ever takes a normal person who has had pain and gives a lot of morphine and stretches him out in bed and takes the blood pressure. Most of these people would run a hypotension, anyway.

I don't feel that these represent real shock. It isn't the actual level of the pressure, but it is a falling pressure over a period of time which is important.

Would you agree with that?

Doctor Friedlich: Yes. And the converse, we should mention for a moment; that is, the importance of relieving pain. Since this is a panel on both the prevention and treatment of these emergencies, it should be mentioned too.

Concerning the problem of the relief of severe pain in myocardial infarction I might say a word, in order to get some disagreement on the point. The problem is the handling of pain, which can potentiate shock or be a contributing factor. In the presence of hypotension, we are up against the same sort of thing that was seen on the battlefield; namely, giving morphine subcutaneously to a person with poor circulation, who may not absorb it; then more morphine is given, and the patient can end up with a considerable load of unabsorbed morphine lying around under his skin. When he gets into a little bit better shape, he will develop trouble from having too much morphine absorbed.

Moderator Butterworth: How do you give the morphine?

Doctor Friedlich: Intravenously, slowly, in small amounts. We stick the patient several times, if necessary, and slowly and cautiously give it intravenously. You know where it is, then, and you don't have to worry about accumulation, and you may find very dramatic and satisfactory relief of pain.

Moderator Butterworth: Yes, I think this is a very good thing to do, and you can do it easily in the small veins, but it must be given slowly. You will agree to that.

Doctor Dexter: I subscribe entirely to what Doctor Friedlich said. I like to give all emergency medication; digitalis, pronestyl, perhaps morphine, and all the rest of the drugs, intravenously, because you then know what you have given, the amount, and the exact time. You know when the drug has begun to act and you do not have to worry about problems of absorption.

Also, with respect to the pressor drugs, I disagree a little bit with Doctor Warren. Epinephrine is a potent compound, and I don't like to use it except as a last resort, when everything else has failed. But, I don't like to start off with it. I don't like to use methosamine (vasoxyl) because it has no action on myocardial contractility.

I think the work of Brewster at the Massachusetts General Hospital indicates quite clearly that in experimental shock, nor-epinephrine is as good a drug as any to use, from the point of view of response of the shock-like state. It is not too potent or too weak.

Doctor Friedlich: I want to mention one other drug which I think probably would be a very useful drug to the real bag-carrying doctors, and that is, Aramine, which is a potent vasopressor. It also has the effect of increasing the force of cardiac contraction. It may be given intravenously, intramuscularly, or subcutaneously, without producing a slough.

Usually, when we turn to Levophed I prefer to give it by plastic catheter, so as to avoid leakage from the vein which can lead to gangrene of the surrounding skin.

Moderator Butterworth: We have only talked about morphine. What about other drugs for the relief of pain?

Doctor Friedlich: I think that the younger men in the hospitals are using more and more demerol, and I suppose I am resisting this a little bit for several reasons. First of all, it is more expensive, second, it often doesn't relieve the pain as well, and third, I think it is more dangerous than morphine, from the standpoint of respiratory depression.

It is used, I think, because of the popular notion that demerol produces less respiratory depression, with the result that the physician is not on guard to detect it.

Doctor Warren: I think morphine, in most circumstances, is all right. I think that your last point is good. Demerol is dangerous, primarily because most people think that it isn't dangerous.

May I come back to the point about the pressor drugs? I am in the process of changing my opinion

about this. I think that Aramine offers, theoretically, at least, very good possibilities, perhaps superior ones.

The thing that worries me about neosynephrine is the problem relating to arrhythmia, in this group of patients.

I wouldn't be sure which is the best. Certainly Levophed is terrifically potent, and dangerous from the point of view of local reaction.

I would say one thing about giving medication. If one does give a parenteral, intramuscular, or subcutaneous drug that one is worried about (I guess we all have to do it at times), don't let anyone give it in the shoulder. I see to it that it is given further down the arm. Then, if the patient is getting into trouble, I can slow things down a little bit. It is a simple maneuver and I feel that it saves some trouble.

Acute Pulmonary Embolism

Moderator Butterworth: I should like to go on and on with this, but I am afraid that we can't. I should like to go ahead, now, with a question that falls into Doctor Dexter's lap. What is your experience in the treatment of acute pulmonary embolism?

Doctor Dexter: Being a medical man, I prefer medical therapy, anticoagulants. But, there are certain situations where one cannot give anticoagulants. For example, in chronic venous disease of months' and years' standing, anticoagulants cannot be expected to do anything more than relieve the situation at the moment. It seems to me that under these conditions, one would prefer to do surgery.

Now, if one prefers to do surgery, let me remind you that it should be done bilaterally, beginning at the common femoral as the lowest point, and working up, if the clot is higher than that point.

Doctor Friedlich: Haven't you had occasion for dramatic surgical treatment, with a massive pulmonary embolus?

Doctor Dexter: Yes. We had one which warranted going into the chest to remove the embolus. This was very dramatic, very rare, and it probably won't happen again, I can assure you.

There have been very few that have ever been done. It was attempted a long time ago. It isn't worth having in the therapeutic armamentarium, unless you can make the diagnosis immediately and get right in and fish it out.

Moderator Butterworth: Do you ever give intravenous atropine?

Doctor Dexter: No.

Moderator Butterworth: Does anyone on the panel give it?

Doctor Friedlich: I have tried large doses of atropine, and papaverine, with disappointing results. It may not be my responsibility to bring this up, but once in a while you do have a patient with an extremely severe pulmonary embolus who seems to be between life and death, and recently I had a difficult decision to make.

It was shortly before the first successful embolectomy in this country, I believe. Wasn't yours the first successful one in this country?

Doctor Dexter: I believe so, but I don't really know.

Doctor Friedlich: At any rate, I was asked to make the decision, whether a one hundred per cent fatal operation ought to be done on this patient.

This brings up an interesting point. The man had been in shock for twelve hours, with a blood pressure of 80/65; he was in the clinical picture of shock, 4-plus. His blood pressure, supported by a slow drip of levophed, was as I have stated. I wanted to do almost anything, rather than recommend pulmonary embolectomy because it had been, up to that point, so uniformly lethal.

We began to wonder whether the vasopressor agent could be acting also as a further basis for pulmonary obstruction and actually making him worse. Out of desperation, because there wasn't anything else I could recommend, we stopped the levophed, and after twelve hours of shock, he started to get rather steadily better.

I mention this only to find out if anyone has ever had a similar experience, because it was fascinating to me. Whether it would happen again, I don't know.

Doctor Warren: I wonder if, looking into the crystal ball, actually these disastrous situations, the arrhythmia, and perhaps this one that you have just talked about aren't going to be a needless thing five years from now. Probably we will turn to open-heart surgery under these circumstances.

I am not recommending this on the patient who comes in tomorrow; unfortunately, there will only be a few places where we can apply this, but in these desperate situations, it may be that therapy of this sort will be used more in the future than we use it now.

Doctor Dexter: I would like to point out that the main problem here is not therapy. I think that therapy in pulmonary embolism is really straightforward. The Trendelenburg operation is not useful now and I don't think that it will come into being in the future. Why: Because it is so difficult to make the diagnosis. The real problem with pulmonary embolism is to recognize it.

I think I am boasting when I say that I recognized only one in ten. Certainly, if one goes to the

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THE CLINICIAN

In the Mode of Today's Thinking

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THE CLINICIAN has been an active and useful type of physician contributing greatly to the welfare of the profession and the public. He has had different characteristics in different generations. Forces are at work in the present threatening the clinician with extinction. For example, the results of a laboratory procedure are being distorted into a substitute for thinking. The clinician may become as extinct as the blacksmith. (Who may be seen in "Westerns.") However, forging a clinical judgment continues to be a fundamental process in the care and treatment of the sick—these forces notwithstanding. The clinician may become more prevalent and wiser by according novelty to his nature in the light of modern modes of thought.

The desirability of novelty is described by these words of Alfred North Whitehead:[1]

> "To keep a human institution from stagnating is the hardest thing in the world to do. You might have a social system that would run along smoothly enough for centuries but if it lacks the element of novelty it is a dead thing. I dare say the ants and bees have smoothly working systems, but they do not change. This element of novelty is what makes the difference between man and the animals. Man sees a future in the present; there is a vision of what can be done with the materials of what is. A dog sees the present as a present and nothing else. Man's social institutions if stagnant, creature for creature, would be of not more worth than the ants."

In his novel nature, the clinician would have a sense of proportion. This phrase has connoted a balance; a weighing of this in comparison with that to judge which is better. It has signified the cutting of a pie into different sizes with each piece accorded a different value of prestige. It has meant moderation. It is to be construed as the resultant of the interreaction and hence relationship of a variable number of factors, each factor having a different significance in the formula.

A sense of proportion as a mode of thinking has its roots in a perspective broad enough to encompass the whole, in the freshness of the dimension of time and in the scope of objectivity.

The perspective of a ball game as seen by a truant boy through a knothole is nostalgic but limited to the idolatry of the left fielder. The baseball scribe, writing from the perspective of his perch high in the stands may be rabid but the perspective of the whole game is from the perch and not through the knothole.

The often heard judgment of physicians "that nothing can be done" is shortsighted. Such a judgment states the only therapeutic goal of the healing art is one of bringing an illness to an end. The oft-told story of bringing an illness to an end in an average stay of 10.1392 days has been lauded as an accomplishment of modern medicine and the purest justification for increased hospital costs.

There are in fact multiple therapeutic goals, each with equal dignity, deserving of equal respect, worthy of equal expenditure of energy. The therapeutic goal of exceeding the level of health the patient has previously known approaches the ultimate but does not deserve a special consideration.

Tranquilizing drugs have become the panacea of general practitioners and internists to short-cut the therapeutic goal of aiding and abetting the patient in his attempts to adjust to living. These drugs keep patients who are annoying to the physicians from appearing in the office as frequently as heretofore. They are used to bypass the longer lasting effort of psychotherapy and the disagreeableness for the physician of referring the patient to an appropriate specialist. Better the shortsighted objective of bending to the patients' misconceptions than the long-range goal of educating.

With certain orders of disease the therapeutic goal of bringing an illness to an end is more obtainable than in others. The orthopedist is faced with sequelae to injury which prevents the attainment of such a goal. The neurologist and psychiatrist may have to be content with merely making a difference. There is a tendency on the part of some physicians to look down upon (and perhaps sneer) at their colleagues who work over long periods of time merely to effect a difference.

However, one should not equate making a difference with the ever present danger of a dependency relationship. Dependency feeds the physician's ego through the resulting continuous deference to his judgment but it starves the patient of his privilege of individuality.

With the lessening prevalence of acute illnesses, chronic illness has emerged to a new prominence. The therapeutic goal of making a difference is pertinent to this fact. This change the clinician accepts. Rehabilitation has purportedly an orientation to the therapeutic goal of making a difference but this movement has tended to become ossified with the preoccupation of adding ten words after one year of effort to the vocabulary of an aphasic. There is a reality principle conditioned by the limitations of our present-day knowledge.

Specialization within the practice of medicine has been harangued. The wealth of knowledge and the ever changing quality of knowledge makes specialization useful and pertinent. But the specialist and the general surgeon who approaches his specialty through a knothole is devoid of a sense of proportion. Broad perspective frees the specialist to integrate the diseases of his specialty into the framework of the biology of diseases as a whole as well as the biology of living beings.[2]

Analytically oriented psychiatrists isolate commonly from the biology of disease. The clinical psychologist through the limitations of his training, has a closed mind to the biology of disease. The adept general practitioner evokes respect for the breadth of his vision in relation to the gamut of disease he is exposed to in his daily functioning.

Effects of Time

The dimension of time has been contributed to the modern clinician by the ideas of Einstein. The process of disease in the course of time, changes in the significance of the factors involved, or changes in the number of factors operative, or changes in the number of factors which are pertinent. Time has function. Time ages wine. With the human mind open-eyed, the chances of seeing a problem from another one of the potential wealth of perspectives are excellent. Such an approach results in the human mind arranging most of the facts in a different combination of relationships to come upon a fresh meaning in time. This has the effect of setting the learning process of the human mind in motion. There are usually some facts left over—a stimulus to yet another combination of relationships to come. The clinician is thinking in the present-day mode.

To the people living about Rome, exposure to night air was paramount in disabling them with miasma. Later in history, the mosquito was seen as the only cause of malaria. Still later, the control of the mosquito superseded the treatment of malaria. It would appear in time malaria will have no consequences for modern man in all portions of the globe.

In the ordinary course of events, it is not usual for our patients to live the number of decades which elapsed before the above tale could be told but, in miniature, this concept of time is met with each day. Within the memory of most of us is the recollection of the introduction of penicillin, wearing the halo of the miracle drug. Then came the disturbing revelation of the adaption potential of pathogenic organisms to even the several different antibiotics then available. Now, the capacity of the staphylococcus to menace the course of recovery of even non-infectious diseases is apparent. In the course of time, a change occurred in the significance of certain of the multiple factors participating. But, in accordance with the range of human behavior, many of us are comically glued to the prescription practices of yesteryear.

With the aid of the dimension of time, the clinician thinks in concepts, an abstraction pertaining to relationships, which has validity over a long span of time and which symbolizes a combination of relationships. A chair is a concept. The word symbolizes that which is made of certain materials and put together in a certain way for the intent of sitting to ease the ache of one's flat feet. The clinician's *doing* flows out of his concepts. This is not true of the "Promoter."

The "Promoter" is a common type of practitioner. He is preoccupied with relieving the pressure of an emotion from within himself or in response to an identical pressure from the patient, to do something so that the outcome, desirable or undesirable, will be known right now. Such a knothole perspective is a seductive hangover from his childhood fears that something will spoil the fulfillment of his wishes. Something usually does. The promoter sells a gimmick, fails to teach a concept. The public from the indigestion of the gimmick will come to accumulate another bias. Resentfully, the public will seek revenge for this stomach upset by attempting to destroy the profession of medicine.

The exaggeration of the importance of *doing* with the disregard of the dimension of time leaves its victims in a state of mere existence, excluded for long periods from the state of being really alive. Happily our biological nature has a great deal of bounce. The psychiatrist relates to the other specialties in such a fashion that he is thoroughly acquainted with the status resulting from this drive to *do*. The concepts of psychosomatic medicine, valid over a long period of time, have not penetrated beyond the fascial plane of the unlearned physician's skin.

The clinician, through his sense of proportion, has objectivity. He sees the self as a projection of his human nature, not as something apart.

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The antithesis—subjectivity—is a characteristic of the neurotic. Physicians represent a fair sampling of a cross section of the population as a whole. Representatives of neuroticism are to be found in medicine. In their subjectivity, avoidance is a cardinal way of life. To avoid patient's, colleague's and lay potentate's disapproval or cold shoulder or downright rejection, the physician, in his subjectivity, becomes a victim of distortion and disproportion. The anxiety of avoidance is concerned with the guilt of negligence, omission, and failure to do.

Observations of the treatment sheets of hospital records on the day of admission has the length of numbers supposed to achieve the avoidance of nothing. Laboratories may come to make some money for the hospital through the spectre of avoidance. Certain physicians make medical care disproportionately expensive for their patients through their own fears of overlooking. An otherwise impressively pitched voice may be heard to quiver—Have you ordered a B.S.P. test, a transaminase test, a protein bound iodine? The ritual of differential diagnosis has become stylized to avoid rather than to learn. The promotion through literature, radio and television of lay health organizations is oriented to drive people into the frame of mind of avoidance. This is readily achieved through an emotional approach designed to evoke the suffering of fear. Rationally, these organizations are said to be oriented to the sanctity of prevention. The virtuousness of pointing out what has been overlooked in a case presentation has grown to the stature of righteousness. The utilization of the facts available as an exercise in learning has fallen into disrepute.

The clinician emphasizes. He recognizes overlooking and neglecting to do is a reality of his human nature. There is some of the absent-minded professor in all of us. He would stress the freshness which is ahead, not the staleness in looking back. In moving into space, the values of yesterday which have lost their meaning will be automatically left behind. The neurotic is burdened with left-overs of the past which he drags along into the here and now. The clinician has the perception of the subtleties of differences—not the monotony and boredom of sameness or similarities.

The Wraith of Research

The clinician with his sense of proportion has his troubles with much which is reported in the name of research in the here and now. Anything bearing the name of research (or even a weird mispronunciation of the name) is passionately applauded and dramatized as an abiding truth. The clinician is obscured by the smog of this response. However, humanity likes practical jokes. Within the profession itself, the compulsion to exalt research to the excesses of distortion occurs to the detriment of the care of the patient and teaching. The clinician finds his time consumed in pointing out the limited perspective, the subjectivity, and the transitory nature of this particular version of smog.

Promoters and *Sponsors* are one and the same coin, one being heads and the other tails. Sponsors and research are close relatives, so close there are no longer discernible boundaries between the two. Without a boundary zone, there is a paucity of freedom of the inquiring mind, deterioration of discrimination, and an eclipse of the learning process. However, a total eclipse of our monkey ancestry would be beyond the pale of humanity.

Sponsorship by the laity has laid claim to a multiplicity of diseases, any variety of the specialties of medicine, and not even excluded the philosophical approach to medicine. Organized labor, through the vehicle of its band leaders, is becoming one of the most prolific sponsors—spawned by the discovery of the gold in "fringe benefits."

Sponsors make use of promotion. Promotion has begot medical journalism. Medical journalism is tempted and commonly yields to the temptation to disregard historical perspective. The regional variety of journalist who adds to the clinician's amusement in reading his local newspaper is merely a good example of a trend within the fourth estate. Indeed, the accolade-wreathed local representative was that grain of sand which activated interest in defining the clinician in the meaning of today. He has denounced medical ethics as a gag rule. He is unduly impressed with authority to the disregard of conceptual thinking. He is a pathetic victim of the vulgarity of subjectivity and distortion. Historical perspective and the dimension of time are beyond his horizon.

With all his troubles, the clinician takes pleasure in the concept of integration,[3] a concept which has movement, not static standstill. Integration as a concept is well anecdoted in the principal function of the central nervous system. It is that body system which has the objective of bringing into being the harmony or unification of the whole. The metameric organization of the earthworm, reflected in the spinal cord, expresses a phylogenetic failure to effect unity in a multicellular organism. The brain when viewed from its historical development is a greater success in the expression of integration. Integration functions over and above the level of absolutes. Relativity, a concept anecdoted in the wisdom of the integrating system of the human body has come to change the mode of man's thinking. This change is resulting in the sense of proportion becoming more commonplace. The propensity of people to follow the bandwagon may draw the sponsors, the medical journalists and the promoters into the vicinity of a sense of proportion. Thinking

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TREATMENT OF CUTANEOUS REACTIONS TO ANTIBIOTICS*

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THE MANAGEMENT of cutaneous reactions to antibiotics can be divided into two main categories. The first includes the treatment of reactions to locally applied antibiotics. The second includes the treatment of reactions to antibiotics taken by mouth, by injection or, less commonly, by instillation.

The therapy of contact dermatitis due to antibiotics consists of two parts. First, removal of the offending agent and, second, treatment of the reacting skin. The first part of this treatment plan is usually not too difficult since one can frequently obtain a history of some disorder of the skin with application of an antibiotic ointment followed by the development of redness, swelling, vesiculation and oozing characteristic of a contact dermatitis. There are three antibiotics in particular which are prone to cause contact dermatitis. These are penicillin, sulfonamides and furacin. Because of the frequency with which they cause reactions, it is my opinion that these three medicaments should no longer be employed in any local application. Streptomycin is another frequent epidermal sensitizer. Reactions to it are seen predominantly in nurses and in one survey it was found that contact dermatitis occurred in about half the personnel handling this drug. It must be kept in mind that many preparations today, including ear drops, eye medications and lozenges, contain antibiotics which may cause contact dermatitis of the ear, eye, throat, etc. Contact dermatitis has also been caused by bacitracin, chloromycetin, tyrothricin and other antibiotics, although these are much less commonly the cause of sensitivity.

Treatment of the skin's reaction to local antibiotics is no different from the treatment of contact dermatitis due to other causes. In the acute stage, that is the stage of erythema, edema, vesiculation and oozing, we use compresses, wet dressings, soaks, baths and lotions. Following the subsidence of the acute reaction, the skin enters what we refer to as the subacute stage at which time we observe erythema and edema. We then employ a paste until the skin goes into the chronic phase of reaction. At this time the skin is erythematous, dry and scaly and we substitute an ointment for the paste. In general, local therapy of the type just described is all that is necessary. In some cases, however, where the reaction is extremely severe and widespread the steroids by mouth or injection are of value. In my experience, such treatment brings relief from the itching and marked discomfort which accompanies a severe contact dermatitis, although it has little effect on the course of the disease itself. In view of the possibility of serious side effects, systemic steroids are not recommended for the treatment of a contact dermatitis other than one which would be considered extremely severe. Before leaving the subject under discussion, I would like to mention the fact that antihistamines taken by mouth or applied to the skin are of no value whatsoever in the management of contact dermatitis. In view of the frequent reactions to antihistamines in ointment form one might go so far as to say that they are contraindicated.

The management of cutaneous reactions to systemically administered antibiotics can be divided into two parts. The first is identification and elimination of the cause. The second is treatment of the cutaneous alteration. In regard to identification of the causative substance, it must be kept in mind that "allergy" is only one of the mechanisms involved in such reactions. Antibiotics may cause dermatitis due to a biotropic effect, as erythema nodosum from sulfonamides, enzymatic interference as light sensitivity from sulfonamides, Herxheimer reactions and moniliasis. It should be pointed out that since antibiotics are being incorporated in more and more substances, such as penicillin in Salk vaccine and in milk, one must be increasingly alert.

Reactions to antibiotics are extremely varied and run the gamut from simple erythema through fatal bullous eruptions and exfoliative dermatitis. In all cases, treatment of the skin itself depends, as previously described, on the stage of reaction pre-

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*Presented at Interservice Conference Hour, Rhode Island Hospital.

sented. In the milder cases this, plus elimination of the cause and the use of antihistamines, by mouth or injection, may be all that is required. In more severe cases, such as serum sickness-type reactions or generalized bullous eruptions, steroids are indicated. Where this therapy is used, it is advisable to start with an intramuscular injection of 40 units of Acthar gel and then to carry on with Medrol in dosage of 4 mgm. every six hours. This dosage should be continued until the skin has returned to normal, following which the dose can be gradually reduced. One word of caution is in order at this point. Frequently, the dosage is reduced too rapidly and steroids are stopped too soon, with a resultant recurrence of the eruption. In most instances, I continue the patient on Medrol, in gradually diminishing dosage, for about three weeks after the skin has cleared. In cases of acute urticaria, particularly where there is laryngeal edema, 0.5 cc of aqueous adrenalin given every hour or as needed will give rapid but temporary relief and is of value until the steroids begin to exert their effect.

Most of the broad spectra antibiotics, when taken by mouth may, in certain instances, bring about the development of a monilial proctitis and/or vaginitis with extension to the adjacent skin. Mycostatin has proven of particular value in the management of this complication. In general, it is advisable to combine oral with local therapy. Mycostatin oral tablets, in doses of 500,000 units three times daily, along with application of mycostatin ointment to the perianal and/or vulval areas, is recommended. Where monilial vaginitis is present mycostatin vaginal tablets, each containing 100,000 units, should be inserted intravaginally twice daily.

In summary, the management of cutaneous reactions to antibiotics, whether the reaction be in the form of a contact dermatitis or in the form of dermatitis medicamentosa involves elimination of the cause and secondly, treatment of the skin itself. Because of the increasing use of antibiotics, the former is becoming more and more of a problem. However, careful questioning and a high index of suspicion are usually rewarding. With the cause removed, treatment along the lines outlined brings about a satisfactory termination of the dermatitis.

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in relativity, the relation and interreaction of a multiplicity of factors is a resultant of a perspective designed to encompass the whole of objectivity and of the dimension of time.

The clinician offers to the public the best of the medical profession in handling the problem of disease. Tomorrow there will be another best and another indication for redefining the clinician. The profusion of suggestions, tangents, and blind alleys offered as panaceas for the troubles of man in handling the perplexities and complexities of disease only point up the desirability of encouraging the development of a clinician with the characteristics and approach which these words approximate in picturing.

To add a footnote, with pointed subjectivity, the neuropsychiatrist, well trained in the biology of disease of man, has a strong resemblance to the clinician who derives considerable from the family physician of yore.

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RIEHL'S MELANOSIS OF EMOTIONAL ORIGIN

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WHILE RIEHL'S MELANOSIS is clinically well known since its first description in 1917, its pathogenesis is still a mystery. The case here reported developed after a severe shock, in a patient having vitiligo. It may help to explain the etiology of this peculiar pigmentary disorder.

"A 60-year-old, unmarried woman, had vitiligo all over her body since the age of 22. Otherwise she was in apparent good health. In February 1957, while at home alone, she opened the door for her brother who fell dead in her arms. The following night her face became red and swollen, with severe itching. The erythema subsided after a few days and was replaced by progressive darkening as seen in figure 1. The clinical diagnosis of Riehl's melanosis was confirmed by the histopathology. The epidermis was very thin; very few papillae were present; the horny layer was thickened. There was undifferentiation of the underlying fibrillary layer. The elastic fibers appeared shrunken and broken. Many chromoblastic and chromatophorous cells were present, which were unevenly distributed. Many lymphocytes and monocytes were observed; perivascular, perifollicular and periglandular infiltration was noted. The hair follicles were keratotic."

Improper food, vitamin deficiency, endocrine disorders and the patient's occupation are the commonly suggested causes of Riehl's melanosis.

Single or pluriglandular imbalance is considered a predisposing factor. Sézary said, in 1921, that any form of melanoderma demands an investigation of the endocrine system, for possible suprarenal, hepatic and thyroid insufficiency. As Navarro Martin and Aguilera Maruri stated in 1930, and also Sézary, and Lortat-Jacob, Legrain and Cleret, a nervous, added to the endocrine disorder, may affect the pigmentary system. In the case of Navarro Martin and Aguilera Maruri there were pronounced asthenia, hypertension and hyperglycemia, suggesting the suprarenal origin of the melanosis.

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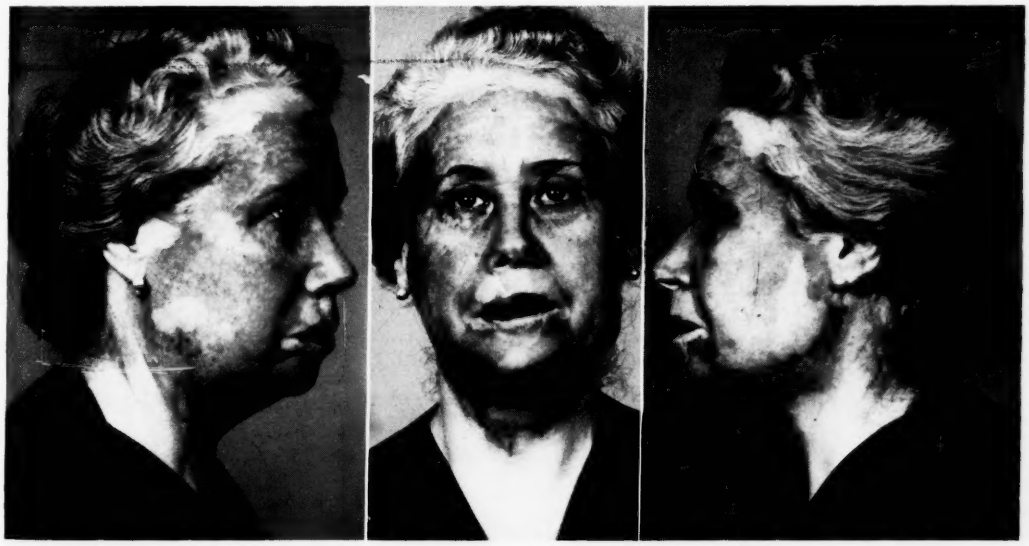

FIGURE 1. A patient with vitiligo-white face, developed Riehl's melanosis a few days after a violent shock.

The importance of the emotional factor in the case reported is obvious.

Early physiological views were based on experimental data, rather than on clinical facts. In 1914, Adler enucleated the pituitary buccal outline in tadpoles, and found that the skin became white. Some years later, Allen (1916), Atwell (1919), and Swingle (1921) interpreted the phenomenon as being due to a contraction of melanocytes. Similar results were obtained by Hogben and Wintron and by Houssay and Ungar (1922 to 1924) who experimented with adult frogs. Like results were found in other batrachians and fishes.

It is interesting to recall the case of Berrard *et al*, a 244-pound woman who showed symptoms of Cushing's disease and pronounced melanodermia. X rays disclosed enlarged suprarenals and a normal pituitary. After 300r applied to the suprarenals, the melanodermia reappeared during pregnancy and lactation, and also symptoms of Cushing's disease. The patient died of bronchopneumonia and diabetes mellitus. No changes in the suprarenals were found. The pituitary was normal, but there were hyaline changes in the pituitary basophilic cells.

Skin coloring is dependent mainly on the melanocytes and the homologous cells, according to the species; the contracting and metabolic activity of these cells are controlled by cosmic factors, mainly light, through a pituitary hormone and a suprarenal hormone (Marañon).

In Bolgert's study (1946) of 39 patients with Riehl's melanosis, 23 revealed symptoms of colitis and constipation. Intestinal therapy cleared 12 cases. Discarding suprarenal and ovarian insufficiency, the main factor seems to be a pituitary melanothropic hormone hypersecretion. On 30 titrations, according to the Collin-Droust-Asselin method, the writer obtained 18 pathological findings from melanosis in evolution, and 12 normal findings in cured patients. However, in the pathological cases, there is no proportion between the intensity of the melanosis and the number of melanothropic units.

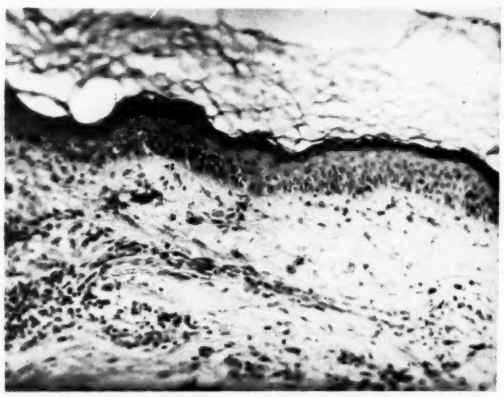

FIGURE 2 shows the horny layer with loose scales, moderate vacuolization of the basal layer, chromatophores in the dermis and perivascular mononuclear infiltration.

Szodoray (1947), studying 26 cases of Riehl's melanosis, found ovarian and pituitary alterations. In 8 cases, the power of ocular adaptation was decreased.

In a case of Riehl's melanosis of four years' duration in an obese 35-year-old woman, reported by Richet, Marañon and Rymer (1948), the sella turcica was enlarged, with thinned walls and thickened posterior clinoid processes.

Bolgert (1952) states that emotional shocks are frequently the cause of the disease, and reports one case of melanosis following severe sickness of a relative, another following imprisonment of the husband by the Germans, another while the patient was trying to escape through military lines. In other cases, sexual emotions could be incriminated.

Bolgert explains the increase of pigmentation accompanying or following emotion, by a steady discharge of the melanothropic hormone acting on the pituitary gland. Degos (1943) also, believes that shock may cause melanosis. The present case is rare because of the emotional origin of the melanosis, and the universal vitiligo, similar to albinism, of which a few cases are found in the literature.

Degos, in 1943, published a case of Riehl's melanosis and coexisting vitiligo.

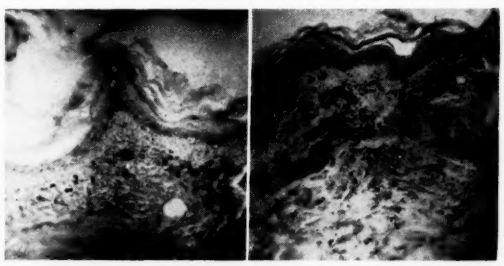

FIGURE 3. Orceine stain showing alterations of elastic fibers.

SUMMARY

A case is reported of Riehl's melanosis which developed after a severe emotional shock, in a patient who had universal vitiligo. The phenomenon is explained as due to the melanothropic hormone of the pituitary.

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The RHODE ISLAND MEDICAL JOURNAL

Owned and Published Monthly by the Rhode Island Medical Society

106 Francis Street, Providence, Rhode Island

CERVICAL SPONDYLOSIS AND ITS NEUROLOGICAL SEQUELS

CERVICAL SPONDYLOSIS, a relatively new addition to nosology, is assuming a position of some importance in clinical medicine. The name is given to the chronic degenerative changes which occur in the spine, most commonly of middle-aged and elderly men, less often in those of women. The condition may be symptomless, but in the course of its development, it may produce cord and root compression; thus presenting a challenging and frequently, a very difficult problem, in differential diagnosis.

In 1956, Edwin Clarke and Peter K. Robinson published an important and comprehensive paper on *Cervical Myelopathy: a Complication of Cervical Spondylosis* (BRAIN, Vol. LXXIX, 1956).

They reported a series of 120 patients, in all of whom spinal cord compression due to cervical spondylosis was demonstrated by myelography, at operation, or necropsy. They concluded from the study of their cases and a critical review of the relevant literature, that the degenerative process in the cervical spine is the basic etiological feature of cervical spondylosis. The primary defect is in the disc, which degenerates and promotes osteophyte formation at the periphery of the vertebral body. The posterior osteophytes, with the overlying ligaments, may project into the spinal cord or the intervertebral foramina at one or more levels, and in some cases they encroach on the spinal cord and its roots, thus giving rise to the neurological signs and symptoms.

It is well known of course, that cord involvement may occur as the result of an acute prolapse of the cervical intervertebral disc and it is essential to differentiate this from the more chronic cervical spondylosis because the pathology, prognosis and treatment of the two conditions are different. Until recently the distinction between the two has been made by only a few authors, and consequently, confusion in thought and therapy has followed.

Cervical myelopathy presents a clinical picture in the arms and legs similar to the varied pattern of tumors in this region, and because of the multiplicity of protruding lesions in most cases, the picture may be even more complex than that seen in tumors.

How difficult may be the diagnosis of cervical spondylosis is illustrated by the diagnoses that had been suggested in 104 of the authors' cases: disseminated sclerosis, cervical disc, cervical cord lesion, cervical cord neoplasm, motor neurone disease, syringomyelia, thoracic cord neoplasm, spastic paraplegia, subacute combined degeneration of the cord, cerebral hemisphere lesion, arachnoiditis, haematomyelia, cerebellar ataxia and lateral sclerosis. On the other hand, should the X-ray film disclosing cervical spondylosis be given undue importance, it may lead to the erroneous diagnosis of spondylosis when the real condition is multiple or amyotrophic lateral sclerosis.

In summarizing this informative study of cervical spondylosis, the authors are not optimistic in

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their outlook; they conclude that the results of treatment, medical or surgical or both, were on the whole disappointing, as far as return to full function was concerned. In most cases a trial of neck immobilization is essential, and laminectomy with section of the dentate ligaments, if this fails.

CARDIAC EMERGENCIES

Elsewhere in this issue is the transcript of a highly-successful panel discussion on the prevention and treatment of cardiac emergencies which was jointly sponsored by the Providence Medical Association and the Rhode Island Heart Association. Physicians throughout the state were invited and the large attendance testified to the interest in the subject. At the conclusion of the meeting there were many favorable comments about the moderator and his associates whose remarks were lively, lucid, and informative, if not always in agreement.

In some quarters questions have been raised as to the place and value of the national voluntary health agencies, including the American Heart Association, in the picture of our country's health. It is a source of satisfaction to see continuous evidence, such as this meeting, of a vigorous, locally sponsored program directed toward a better professional and lay understanding of heart diseases. While the national research programs of the health agencies are well known and of inestimable value, some of us are of opinion that local activities, on occasions such as this, arouse in us a more vivid feeling of the value of these voluntary organizations.

Many years ago, Doctor S. Weir Mitchell, addressing an audience of medical students, had this to say, "If any of you young men possesses a mathematical mind, a mind which always demands demonstrable evidence and is unhappy without it, you will not be at home in the profession of medicine. In medicine there is some science which you will use in the practice of your art; but unfortunately for your mathematical mind, you will soon learn that many, if not most, of your diagnoses and treatments will be based upon the accumulation of probabilities."

If, with Doctor Mitchell's remarks in mind, you read the panel discussion of cardiac emergencies, you will doubtless agree that their interpretations of probabilities are as sound in principle as in practice they are useful.

PAYROLL RECORDS

With the change in the statutes relative to the employment security program whereby every employer of one or more persons is subject to this tax law, physicians are faced with the responsibility of maintaining accurate records regarding all employees. Such records must be available at all reasonable times within this state for inspection by authorized representatives of the department of employment security which administers both the unemployment compensation program and the temporary disability insurance plan.

Recently, members of the Society have been subject to an audit of their records and some confusion regarding the regulations has ensued. Every physician should read the report published in this issue on page 694, wherein the legal requirements are set forth and the regulations regarding payroll records are listed.

With the start of the new year, every physician should, if he does not do so already, establish a complete record system relative to employee payroll. Attention is directed to the department's regulation noting that gross wages also includes special payments such as bonuses, gratuities, dismissal wages, etc. The possession of accurate and complete records will work to the advantage of the physician when the audit is requested.

HANG THE COST!

Less than a week after the elections the national wire services carried a news report on the proposals set forth by the AFL-CIO Executive Council, which included, among many other legislative requests, . . . "housing, hospital-medical coverage for retired persons on the social security rolls. . ."

In response to news conference questions, the newspaper story reported that Mr. George Meany, the AFL-CIO president, said he had no estimate of how much the program would cost.

This is the same type of thinking that was present when the compulsory tax proposal was advanced in the Congress this year for hospital-surgical coverage for all social security beneficiaries in the old-age bracket. The cost factor is never considered until the program is launched on the public; if the starting tax base is inaccurate, or insufficient, merely increase it and tell the public about it afterwards. After all, only 190,000 of Britain's twenty-six million people made more than $5,600 after taxes in 1957, and fewer than 1,000 made over $16,800; yet we are told that everyone is happy with state socialism.

Hang the cost! or do we hang with it?

Mark your Calendar Now!

May 12-13, 1959

ANNUAL MEETING

Rhode Island Medical Society

EMPLOYMENT SECURITY PAYROLL AUDITS

THE AUDIT recently of the employment payroll records of many physicians by the State Department of Employment Security has resulted in many inquiries to the Society. The regulations covering such audits are established by law and by administrative rulings, and for the information of all physicians employing one or more employees these rulings are summarized as follows:

General Laws, Section 28-42-38:

"Every employer and every employing unit employing any person in employment in this state shall keep true and accurate employment records of all persons employed by him, and of the weekly hours worked for him by each, and of the weekly wages paid by him to each such person; and every employer and employing unit shall keep records containing such information as the director may prescribe. Such records shall at all times be available within this state and shall be open to inspection by the director or his authorized representatives at any reasonable time and as often as the director shall deem necessary. The director may require from any employer, or employing unit, employing any person in this state, any reports covering persons employed by him, on employment, wages, hours, unemployment and related matters which the director deems necessary to the effective administration of chapters 42 to 44, inclusive, of this title."

The "related matters" specified in the law quoted above which are deemed necessary for proper administration include receipts and disbursements, payroll records and federal and state tax and wage reports. These items must be made available to the Department of Employment Security auditors in order that they may correctly perform their duties under the law.

REGULATION XV, adopted under the employment security act, has the force and effect of law, and as amended to April 16, 1958, states as follows:

Payroll Records

Every employing unit shall establish, maintain and preserve all payroll records for each succeeding year beginning January 1, 1952 for a period of four years. All such records shall be available at all reasonable times within this state for inspection by duly authorized representatives of the Director. Such payroll records shall, in addition to recording the name of the employing unit and place of employment, show the following data for each worker:

(a) Name and address.

(b) Social Security Account Number.

(c) Rate of pay per hour, day or week, and effective date of such rate.

(d) Number of hours worked by each employee during each work day from date of accession to date of termination.

(e) Computation of gross wages paid for each payroll period, showing separately:
   1) Amount of money wages.
   2) Cash value of wages when payment is made in any medium other than cash.
   3) Commissions and special payments such as bonuses, gifts, tips, gratuities, dismissal wages, and the like, and the period for which such payments were made.

(f) The amount of money paid to an employee as an allowance or reimbursement for traveling or other expenses attributable to business.

(g) Time lost because worker was not available for work during any part of his normal customary full-time hours in any calendar week when his earnings are less than $30 for such week.

* * *

Members of the Society would do well to establish their employee payroll records along the lines indicated above in order that the information may be readily available for audit at any time by representatives of the Department of Employment Security.

DISTRICT MEDICAL SOCIETY MEETINGS

BRISTOL COUNTY MEDICAL ASSOCIATION

At the annual meeting of the Bristol County Medical Association the following officers were elected:

PRESIDENT.....BRUCE SMITH, M.D., *Barrington*
VICE-PRESIDENT,
PAUL BOTELHO, M.D., *Bristol*
SECRETARY.....PAUL C. BRUNO, M.D., *Bristol*
TREASURER,
HUBERT HOLDSWORTH, M.D., *Bristol*
COUNCILLOR TO R.I.M.S.,
CHARLES E. MILLARD, M.D., *Warren*
TO THE HOUSE OF DELEGATES TO THE R.I.M.S.....ROBERT W. DREW, M.D., *Warren*

PROVIDENCE MEDICAL ASSOCIATION

A regular meeting of the Providence Medical Association was held at the Rhode Island Medical Society Library, Monday, October 6, 1958. The meeting was called to order by the president, Doctor Joseph G. McWilliams, at 8:30 P.M.

Minutes of Previous Meeting

The minutes of the April 7 meeting were not read as they had been published in the RHODE ISLAND MEDICAL JOURNAL. No corrections or additions were reported and the president stated the minutes would be considered approved as published.

Obituaries

Doctor McWilliams reported that since the April 7 meeting the following members had died:

George W. Van Benschoten, M.D., on June 1. Doctor Van Benschoten was president of the Association in 1924.

Lucius C. Kingman, M.D., on June 19. Doctor Kingman was president of the Association in 1932

Prescott T. Hill, M.D., on June 26.

Marden H. Platt, M.D., on September 29.

Doctor McWilliams requested a moment of silent prayer for these deceased members of the Association.

Report of the Secretary

Doctor DiMaio, secretary, reported for the Executive Committee as follows:

The resignation from membership of Doctor Arthur E. O'Dea, who is moving from Rhode Island, was accepted.

The Association has been voted into membership in the Rhode Island Council of Community Services, Inc., as an active member of the Health Division in particular.

Approval has been given to an additional community service of the Medical Bureau in accepting emergency dental calls on week-ends and making referrals from a list of dentists submitted and approved by the Providence District Dental Society.

A survey of the membership by the Program Committee has indicated an overwhelming support for the continuance of the regular monthly meetings of the Association to be held on the First Monday of each month, October through April.

The tentative date for the annual dinner and golf tournament of the Association in 1959 has been set for Wednesday, June 24.

Nominations for Membership

The secretary reported that the names of the applicants had been submitted to the membership in the official notice of the meeting. He listed them as follows:

For Active Membership

Alton J. Curran, M.D.
Americo Del Selva, M.D.
Frederick J. Fay, M.D.
Hector C. Jaso, M.D.
John B. Lawlor, M.D.
Antonio Machado, M.D.
Vartan Papazian, M.D.
Florian G. Ruest, M.D.
Louis V. Sorrentino, M.D.
Jaroslav Struminsky, M.D.
Ando I. Suvari, M.D.
Richard Wang, M.D.
J. John Yashar, M.D.

For Associate Membership

Lester M. Friedman, M.D., an active member of the Kent County Medical Society.

For Active Membership by Transfer

Armand D. Varsaci, M.D.

Action: A motion was made, seconded and adopted that the nominations relative to membership by the Executive Committee be approved.

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effective against more
than 30 common pathogens,
even including
resistant staphylococci.

PREVENTION AND TREATMENT OF CARDIAC EMERGENCIES

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autopsy table and sees the emboli and then goes back over the hospital records, where there were four-hour charts, with nurses and house officers and everybody looking at these patients, one has no suspicion, even in retrospect, that embolism has taken place. The real problem in embolism is its recognition. Once you recognize it, prophylaxis is straightforward.

In this case of yours, Allan, if you had known there was a large clot occluding one artery and half of the other, you would not have hesitated one moment to suggest surgery, as the only thing to benefit the patient. In view of the fact that you couldn't be sure of it, it must have been pretty hard for you to make up your mind.

So, to me, the therapy of pulmonary embolism is not the problem. The problem is to recognize it, and having recognized that it has occurred or that it may occur, then the problem is really not therapy, but prophylaxis.

Moderator Butterworth: How often do emboli arise in the pulmonary bed, itself?

Doctor Dexter: I think quite rarely. But they do, and particularly in patients who have pulmonary hypertension. I think that all of the studies show it to be very rare; somewhere around 85 to 90 per cent of all emboli come from the leg.

Doctor Warren: Your statistics are weighted; we are talking about two diseases. You and I see a lot of cardiac patients, who do have small pulmonary emboli, so often missed, and this is one instance where prophylaxis and treatment are pretty straightforward, once the diagnosis is made.

But, there is another group of patients, where a massive pulmonary embolus strikes as a great catastrophe, where the diagnostic batting average is probably higher, and it is really a catastrophic situation. It is in this group of patients that medical therapy, by and large, completely falls down and what we have to offer isn't very impressive.

It is this group of patients that, in the future, we may be more capable of handling. I think that the majority of people with pulmonary emboli are in the group you have described, where the diagnosis is frequently missed, and it comes in the course of another disease process.

Doctor Friedlich: Obviously, we aren't going to have time to run this subject into the ground, but I should like to say one thing about recognition. It seems to me that in the patients I have seen, the biggest stumbling block to recognition is the failure to differentiate clearly in one's mind between the syndrome of pulmonary infarction and the syndrome of pulmonary embolus.

So often, one hears it said of the patient who has come in with severe dyspnoea, cyanosis and pain in the chest, that they can't have pulmonary embolus, because they haven't coughed up any blood, and the X ray doesn't show any shadow, and they don't have pleural pain, and so forth.

The man that we spoke of, I was perfectly sure had a pulmonary embolus, because he had all the signs of it. The pulmonary second sound became loud; he had a right ventricular gallop; and he had the X-ray findings that give one a hint of pulmonary embolus, even without the presence of pulmonary infarction.

We have interesting slides, showing enlargement of the pulmonary artery, a rather chopped-off appearance of the branches of the pulmonary artery. The lung fields distal to these pulmonary artery branches are rather ischemic.

I think it was pointed out by Doctor Fleischner that when one pulmonary artery is occluded, you sometimes see hyperemia of the opposite side. This doesn't hold in many cases, but in a large pulmonary embolus, it can be of help.

Arrhythmias

Moderator Butterworth: Well, now, I think that we are going to bog down here, if we are not careful. You can see Doctor Warren's eyes lighting up, when he hears you talking about right ventricular gallop, but rather than to get off into that, which would take the rest of the evening, I would like to go to the next subject. I should like to have Doctor Friedlich talk a little bit about arrhythmias of one kind of another. I will pose him a question to start it off.

How would you treat a patient with complete heart block, who developed ventricular tachycardia?

Doctor Friedlich: May I ask a question about the patient? Does this patient have Stokes-Adams attacks, precipitated or initiated by ventricular tachycardia?

Moderator Butterworth: That wasn't my question. I will simply say that he does have Stokes-Adams attacks.

Doctor Friedlich: This brings up a fascinating question, because as you are all well aware, patients with Stokes-Adams attacks may have the attacks ushered in by cardiac standstill, by ventricular tachycardia, by ventricular fibrillation, and often by combinations of these arrhythmias.

I think that one's first reaction under these circumstances, is to think of the use of quinidine or pronestyl to diminish the so-called irritability of the heart.

Our experience in the operating room certainly makes us feel that most of the time, when hearts

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Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours.

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Tablets: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

References:
1. Grieble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958.
2. Editorial: *New England J. Med.* 258:48-49, 1958.

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PREVENTION AND TREATMENT OF CARDIAC EMERGENCIES

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go into ventricular fibrillation, it is because of cardiac anoxia, due to poor coronary perfusion, so that it is really a manifestation of not enough irritability, instead of too much.

As a matter of fact, there has been a good deal of work done on the effect of quinidine and other depressant drugs in heart block with Stokes-Adams attacks. Usually, even in patients who have their attacks on the basis of ventricular tachycardia and fibrillation, quinidine and pronestyl will precipitate attacks rather than prevent them.

I have seen patients' attacks terminated, by the use of these drugs on rare occasions, I think that more frequently quinidine would make the situation worse.

I have had, myself, the experience of giving half a tablet of quinidine to a wonderful young woman who had A.V. block, and of seeing the precipitation of four Stokes-Adams attacks over a period of a half-hour thereafter.

I am very leery of using this agent. I would be much more apt to try prophylactic vasopressor drugs first, if the patient is having repeated attacks; testing the effect of a little epinephrine or Isuprel. In some patients, one is more effective than the other.

In the case of this woman, interestingly enough, we were most successful in preventing her attacks with large doses of atropine, and she ultimately became able to differentiate the two kinds of attacks, one ushered in by a standstill, which usually came on when her rate became very slow, for which she gave herself epinephrine, and when she started to have her other attacks, she would begin to take atropine, in rather large doses, with good effect.

Moderator Butterworth: I think the panel would probably agree that in the presence of complete heart block, one would have to think twice about the use of quinidine and pronestyl.

Doctor Dexter: Yes; that is correct.

Moderator Butterworth: I think that it is extremely dangerous, under these circumstances, to use these drugs, and I learned about this the hard way, several years ago. I certainly agree with Doctor Friedlich that in the presence of complete heart block, one must use almost anything, including prayer, rather than to use quinidine or pronestyl.

Doctor Warren: I agree with that. The only point that I would like to add is this. I have been scared on several occasions, about people of this sort receiving epinephrine.

If there is any evidence of a tendency towards arrhythmia, I would say that we should stay away from epinephrine and we should turn to Isuprel, or some of the other vasopressor drugs or atropine in this sort of situation.

Once in my younger days, Doctor Fulton may remember that we, almost at will, produced ventricular tachycardia in a patient who had a somewhat similar situation, by the use of epinephrine.

Doctor Friedlich: This brings up an interesting question. I am sure under these circumstances one uses epinephrine with great caution, but there has been a great change in our thought as to what constitutes a physiological dose of epinephrine. There was a time when one-half cc. of one to one-thousand dilution of epinephrine, as it comes in the vial, was considered a sensible sort of dose to give, when trying to support the heart under these circumstances.

Our department of anesthesia taught us a great deal about this, I think, to the point where I have seen a number of patients immeasurably improved by a slow drip of one-thousand cc of five per cent dextrose and water, containing one or two cc of epinephrine; extraordinarily dilute amounts, having helpful actions. I am sure that this is the kind of range in which the physiological dosage of epinephrine lies, and many times in the past too large doses have been used. I think as we use very small doses, we see a surprising effect from it and much less of the arrhythmia-producing potentialities.

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PREVENTION AND TREATMENT OF CARDIAC EMERGENCIES

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Doctor Warren: I think that is absolutely right. We have been using epinephrine for some years in our experimental work, and frequently, I am after the house staff concerning dosage. It makes me shudder to see some of the doses that are used in emergencies.

This is a drug that leads to serious arrhythmias, and all sorts of unfavorable consequences. We have used it enough in the research laboratory on ourselves, so that I am well aware of this point.

Acute Cardiac Arrest

Moderator Butterworth: Allan, up in this part of the country, treatment of cardiac arrest has become popular. How would you like to talk a little about what you do with an acute cardiac arrest?

Doctor Friedlich: Now, I have to ask, where does this occur, because I think that is the crux of the whole problem.

Moderator Butterworth: Let us put it in the locker room, again.

Doctor Friedlich: All right. When one is faced with a patient with cardiac arrest under these circumstances, I think that there is one matter that assumes considerable importance. Here is a patient who has had Stokes-Adams attacks, with repeated cardiac arrest, and he has recovered from all of them in the past.

Probably the more you keep your shirt on, the better off you will be. If the cardiac arrest goes on for a minute, you start getting pretty itchy and then there are several things that can be done that are often helpful. One is a very stiff blow in the chest, of an order not quite enough to really hurt his chest or break a rib, but a tough blow. This will often start the heart beat.

Another is insertion of a needle into the myocardium, and often just the stimulation of the needle prick in the myocardium will be enough to evoke contraction and get things started.

If this does not work, one can often evoke a contraction by flicking the hub of the needle with the tip of the finger. Sometimes you can keep the heart going for a long period by this means.

Probably the thing that will seal the patient's fate better than anything else is to give a cc of undiluted epinephrine through the needle.

If one uses epinephrine under those circumstances, and I think it is reasonable to do it, if there is nothing else to do, one would think much more in terms of one to ten dilution of epinephrine, perhaps using one cc of that solution in the ventricle.

If we are to open chests in an emergency in order to carry out cardiac massage, there should be a minimum of two well-trained people, one of whom can breathe the patient. One has to have a certain amount of equipment available before there is a reasonable chance of success outside of the operating room.

Doctor Warren: I brought the literature with me. This is from the NEW YORK TIMES.

"Minister collapses in chancel of Church."

The story follows that three physicians performed an emergency operation in the church, in a vain effort to save the life of the minister.

Now, I would agree thoroughly that anybody can open the chest. That is no job. If you are strong enough, you can massage the heart. The real problem is the respiratory one, and that is the part that is usually taken care of by our anesthesiologists. This is difficult. If you have some people skilled in anesthesiology available in the next room, you stand some chance of doing cardiac massage successfully. I think that otherwise it is extraordinarily difficult.

I think, of course, that the diagnosis of death, rather than an episode of standstill is difficult to make in a minute.

I do have two things that bother me a little bit. One is that there have been reports of successful operations, one of which was in the A.M.A. Journal a year or so ago, which have caused me to revise upward my concept of the length of time that one can be dead with a normal brain after revival.

This actually raises the horrible thought that maybe some of these people we see aren't really dead. I share the same fear about epinephrine as you know. And, I have one other fear.

My grapevine information tells me that in the great state of California, there is now a suit against a physician for, believe it or not, not opening the chest in a situation of this sort. I don't know what we will do about this.

Moderator Butterworth: Here is a real problem, and you may have run up against it. I had a patient whom I had followed for a number of years. He had had a stenotic aortic valve for some years, and died suddenly. By the time they called me, the medical examiner had arrived there, so that shows it was a reasonable length of time. I found out subsequently that the wife refused to pay the bill, because she felt that I should have come down and started the heart up.

I am very much afraid, with all of the articles appearing in the lay press, that unless we counteract this, it is a feeling that is going to grow. I had the unfortunate experience in Texas, a few weeks ago, of talking on a similar subject, and after I had made certain statements of this sort, I found that the local medical examiner had taken it upon himself to go with the utmost speed to any of these emergencies and open the chest on arrival. I calculated it would take him anywhere from ten to fifteen minutes, at least, to reach the scene of one of these accidents.

I can see no possible hope of success under these circumstances, and if the profession itself starts to do this, I don't know where it is going to lead. Certainly, no good will be done, and we will have all kinds of lawsuits on our hands.

Doctor Friedlich: What do you think is the longest time after which one should operate, and anticipate possible success?

Doctor Warren: Well, I don't know. When I read the case histories mentioning patients, some of whom, if not by direct statement, then by deduction, may have survived for a considerable time, and yet had a return of brain function, I really don't know the answer.

Moderator Butterworth: What we come down to is really an accurate diagnosis. As has been brought out, we seldom know with certainty, and therefore one can be going in on several different types of arrhythmias.

Doctor Dexter: Here is one thing that occurred, I believe, in California. A patient was revived by a penknife opening of the chest, a little too late to maintain brain function, but early enough to get the cardiac function restored. The patient's family is now suing the physician.

So it doesn't matter what you do.

Not being a surgeon, and not being an anesthesiologist, I am not going to open these chests. I wouldn't even think of doing it.

As a medical man, I will use the usual medical therapy.

Moderator Butterworth: I think we have got to begin to think about closing, here. We have received one question that deals with a subject we have spoken about before, but I think we might ask the panel what they think about it.

"I have recently pressed on a patient's carotid sinus, in order to differentiate a supraventricular tachycardia, and the patient developed ventricular fibrillation and died.

"How often has this been reported?"

Doctor Dexter: I am not aware of its having been reported.

Doctor Warren: I think it has probably happened, but I don't know of any specific report. There have been deaths, but what the mechanism was, I don't know.

Doctor Friedlich: This patient presumably was connected with an electrocardiograph; is that right?

Voices: Yes!

Doctor Friedlich: I don't understand it.

Moderator Butterworth: That doesn't mean that it doesn't occur, even though I have not seen it.

continued on page 708

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PREVENTION AND TREATMENT OF CARDIAC EMERGENCIES

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We have left it until the last, and I would like to ask Doctor Dexter to summarize very briefly for us the way he treats acute pulmonary edema.

Doctor Dexter: The first thing I do is to put on tourniquets, if they are more handy than morphine, but tourniquets and morphine are the two things that are No. 1 on the list. A dose of morphine for an adult would be 15 mg. because it is the euphoric action more than just pain relief that is desired.

Moderator Butterworth: I.V. or subcutaneous?

Doctor Dexter: Either; it depends on how desperate the situation is. It really seems as though, if one were in a hurry, i.v. could be best. But, ordinarily, one would put on the tourniquets and after that one can take one's time. If the patient has tachycardia, that should be brought under control because it is presumably the main factor which produced the episode of edema and its relief is of paramount importance.

Doctor Friedlich: You mean paroxysmal tachycardia?

Doctor Dexter: Yes. Then one can perform phlebotomy at one's leisure, the tourniquets having taken care of the immediate situation. Next, the underlying precipitating cause should be handled just as well as one can. I am referring, now, to acute coronary occlusion, for example, or to a salt binge at Thanksgiving dinner, or to some undue exertion, as running for a street car or what-have-you.

Finally, I would like to give digitalis, usually slowly, over the course of the next forty-eight hours, but rarely, and I emphasize "rarely," I like to give it rapidly. I like to give it rapidly only if there is an acute arrhythmia which needs to be brought under control, such as atrial fibrillation.

Other than that, I very rarely rush in with a fast-acting digitalis preparation, because I find that I get into more trouble than I have bargained for, and usually, I don't think it is necessary to be in such a rush.

When I say forty-eight hours, maybe I am exaggerating. I may want to give a milligram of digitoxin in the next hour or two.

Doctor Warren: As an old tourniquet man, I think it is worth pointing out that these can be useful or not, depending in part on the situation. If the patient has developed shock, really, and has a low blood pressure, then you can almost predict they are going to be useless. The reason for this is that you cannot get the tourniquets on tightly and still allow arterial flow into the extremities, enough to cause any trapping of blood.

On the other hand, if this is a hypertensive patient, who has maintained his blood pressure, you can put the tourniquet on below diastolic blood pressure, and that person can pool a lot of blood. In that group of patients, especially if they don't have any edema, I think that tourniquets are quite effective in pooling blood and relief of the congestion of the chest is the prime move.

I would agree about the morphine.

And now, what about the intermittent positive pressure breathing?

Doctor Dexter: Patients are worse, but they feel better.

Doctor Warren: I think a lot of the ideas which people have about this, that it counteracts the pressure in the pulmonary capillaries, are erroneous; however, in some situations, it is effective, and it is effective because it is as if you really put a big tourniquet on, and all of the blood outside of the chest is kept there. Therefore, it is effective.

There is one thing that alarms me, namely, that it often alarms the patient. In cases of myocardial infarction, I am acutely aware of the dangers of emotional troubles; they add to the circulatory burden.

Doctor Friedlich: You mean they are better, but they feel worse.

Doctor Warren: It may help. But, the beneficial activity is negated by scaring the patient. We have been going through a series of experiments, inducing emotional states, which at least double the cardiac output in a normal individual. It will certainly raise the blood pressure in some people and will lead to additional burdens on the heart.

Moderator Butterworth: One of the great problems about positive pressure is that there really isn't any good equipment, with which I am familiar, that enables one to do this without a good deal of discomfort to the patient.

In the early days, we had very great success by using the old method of putting a mask over the whole head, around the neck, where you could really get good, positive pressure.

It was wonderful, except that the patient frequently had so much claustrophobia, that the end result was no better.

What about the anti-foaming agents?

Doctor Dexter: I don't know; I have had no experience with them. I only know what is published. Have any of you had any experience with them?

Doctor Warren: I have had a little bit. I am not terribly impressed. Some of these people get into a lot of trouble from various forms of secretions, in the respiratory tract.

Doctor Friedlich: In severe persistent pulmonary edema, when you just cannot seem to get on top of it, you try a number of things, and finally the patient gets slowly better. You can't be sure whether

you can attribute this to the alcohol or to something else that was done.

We haven't said anything about the wheezing of acute pulmonary edema.

Doctor Dexter: For this situation, I think there is a real place for Aminophyllin. It is quite a remarkable drug, and it has beneficial effects on the kidneys, the heart and bronchi. It is a good drug to use.

I would like to re-emphasize the importance of recognizing and controlling, if possible, the following factors: Tachycardia, if it exists; fever, which can be lowered; hypertension, if it is a hypertensive crisis which can be reduced with Reserpine or similar drug. And then, too, there is the possibility of a pulmonary embolism having precipitated the attack. I am not sure how you would treat it, but another one can be prevented.

These are, to me, the main immediate, controllable, precipitating factors usually encountered.

Doctor Warren: May I add to your list the fact that most of these people have an excessive amount of extracellular fluid in the body and will probably do well with diuretic medication, etc., even though there is no overt edema. I am talking, now, of the long-term treatment more than the emergency management.

Moderator Butterworth: The last thing I wanted to bring up is the prevention of these recurrent attacks of pulmonary edema. My own experience, in recent months, has been that Diuril has been the most satisfactory thing I have found to control these people. I have actually been amazed at how many people I have been able to get off mercurials.

I am interested to know whether the rest of the panel has had this experience or otherwise.

Doctor Dexter: I haven't had too much experience with it, but what I have had has been most encouraging. I am quite impressed with it as a way of getting many patients off mercurials, and I think quite well of it.

Doctor Friedlich: We, too, approached this as we did the other oral diuretics, with our tongue very much in cheek. We have all been very much impressed with it.

I think with any drug that is coming into such rapid popularity, we may very well catch up with the side effects later. We do need to be on guard against potassium depletion, and by this mechanism producing digitalis intoxication. There have been some reports of trouble already, and I expect a lot more will be seen in the near future.

Moderator Butterworth: Ladies and gentlemen, thank you very much. We have not begun to cover the questions that you handed in to the panel, but we hope we have provided you with an interesting discussion of the topic.


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THROUGH . . .  *the Microscope*

One New Physician in Congress

Physician members of the 86th Congress will number four, one less than the last Congress. The November elections sent back to Washington Doctors Walter Judd of Minnesota, Thomas Morgan and Ivor Fenton, both of Pennsylvania. The newcomer is Doctor Thomas Alford of Arkansas. Physicians defeated at the polls were Doctor Will Neal of West Virginia, who had been active on the health subcommittee of the House Interstate Committee, and Doctor A. L. Miller of Nebraska, who served on the District of Columbia and Interior and Insular Affairs committees.

Doctor Morgan is scheduled to take over the chairmanship of the House Foreign Affairs Committee on which Doctor Judd also serves. Doctor Alford, a Little Rock ophthalmologist, was running for public office for the first time.

Quote of the Month

At a press conference Secretary Flemming of the Department of Health, Education and Welfare, is quoted as stating—

> "I am tired of people pulling figures out of the air on what the federal government ought to do. There is no recognition of state, local and private responsibilities. All have to share."

Policy with Reference to Medicare Permits

1. Inquiries have been received as to whether an eligible dependent who commences receiving authorized care from a civilian source participating in the program, who is *residing apart from the sponsor* at the time the care commences, and who *takes up residence with the sponsor* before completion of that care, may continue that care from that source without obtaining a MEDICARE PERMIT. As a general rule, such care may be continued without a MEDICARE PERMIT. Guidance for administration of the rule in certain specific instances is set forth below:

a. An eligible dependent spouse or child who is *hospitalized* for care authorized under the program, who is "Residing Apart from Sponsor" at the time of admission, and who acquires the status of "Residing with Sponsor" during hospitalization, may complete authorized hospital care for that admission and for readmissions indicated under Section 5-506g of the Joint Directive without a MEDICARE PERMIT. That Section covers readmissions within 14 days following discharge from the previous admission, for authorized treatment of the original conditions for which initially hospitalized, or direct complications thereof.

b. An eligible dependent who is "Residing Apart from Sponsor" at the time *maternity care* is commenced, and who takes up residency with her sponsor during the period of the care and prior to hospitalization for delivery or for complications of pregnancy, would not be in a position to certify on the hospital claim form "Residing Apart from Sponsor—Yes." Also, she would not be in a position to make such a certification on claim forms of other approved sources of care. However, if she does not change her attending physician, she may obtain required hospitalization and other required care from approved sources without a MEDICARE PERMIT, provided the person signing Item 14 on the DA Form 1863 furnishes the hospital a written statement, on the claim form or attachment thereto, that maternity care for the pregnancy or complications thereof for which hospitalized was commenced on a date when she was residing apart from the sponsor. If such an eligible dependent changes her attending physician for any reason (other than death or illness of her attending physician), she must secure a MEDICARE PERMIT in order to obtain authorized care from civilian sources at Government expense. In those instances where a change of attending physician has occurred due to the death or illness of the attending physician, that fact should be stated on the claim form or attachment thereto by the person signing Item 14 on the DA Form 1863. Of course, any eligible dependent may obtain required care from a uniformed services medical facility, if available.

Rhode Island Hospital Association Elects

At its annual meeting the Hospital Association of Rhode Island elected as its president for the coming year Reverend Stephen K. Callahan, secretary to the Roman Catholic Bishop of Rhode Island for Hospitals. Elected as vice president was J. Dewey Lutes, superintendent of Woonsocket Hospital. Nicholas E. Janson, business manager, State Hospital for Mental Diseases, was re-elected treasurer.

National Conference on Health Problems of Aged Planned

Plans are currently being developed for a national conference on the health problems of the aged, to be held in the spring of 1959 under the sponsorship of the Joint Council for the Health Care of the Aged.

"Such a conference will provide the basis for more effective joint planning on the part of those who are the principal purveyors of health care for the aged," Mrs. Florence Baltz, incoming president of the American Nursing Home Association, pointed out.

The Joint Council was formed last April under the sponsorship of the American Dental Association, the American Hospital Association, the American Medical Association, and the American Nursing Home Association.

Its objectives are to (1) identify and analyze the health needs of the aged, (2) appraise available health resources for the aged, (3) develop programs to foster the best possible health care for the aged, (4) foster effective methods of payment for the health care of the aged, and (5) foster health education programs of the aged.

I Want My Own Doctor

More than three fourths of the population of the United States want to choose their own doctor.

In addition, they want to assume all or part of the responsibility for paying their doctor bills.

These were among the findings in a survey conducted among a sampling of the adult general population by Opinion Research Corporation, Princeton, N. J., for the American Medical Association.

The purpose of the study was to explore attitudes about the choice of physicians.

The study also showed that:

Eighty-eight per cent of the population believe the right to see the same doctor regularly is of vital importance.

Eighty-nine per cent believe that medical care in this country has improved over the past twenty years. Half of these persons ascribe the improvement to more and better research and advances in medical science.

Seventy-six per cent of the people said they wanted to choose their own physicians; 13 per cent saw no difference in whether they or someone else chooses their physician; 8 per cent preferred to have someone else choose, and 3 per cent had no opinion.

In answer to further questioning, 93 per cent of those surveyed felt that free choice would give them more confidence in the doctor; 84 per cent thought doctors would take a more personal interest in them, and 79 per cent believed they would have less trouble getting the doctor to make a home call.

Concerning the right to see the same physician all the time, 88 per cent felt this right to be very important. Of the 12 per cent who did not feel such continuity to be of vital importance, 8 per cent saw no difference in whether or not they saw the same doctor every time, and 4 per cent gave other comments.

In answering still another set of questions, 93 per cent felt such continuity would give them more confidence in the doctor; 92 per cent thought doctors would take a more personal interest in them, and 84 per cent believed they would have less trouble getting a doctor to make a house call.

When queried about the main advantages of a regular doctor, those interviewed gave a variety of reasons. Sixty-two per cent cited the physician's knowledge of their medical history. They said, "He

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during pregnancy

ar oughout lactation

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THROUGH THE MICROSCOPE

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knows your system inside and out from dealing with you regularly; he knows what you've had."

Also mentioned by 30 per cent was reliability on emergency calls; confidence in the physician by 21 per cent, and a closer relationship between doctor and patient by 18 per cent.

Concerning the payment of medical bills, a total of 79 per cent wanted to assume all or part of the responsibility for paying their doctor bills either by direct payment or by paying part of insurance premiums.

The 79 per cent breaks down into the following: 16 per cent for paying all doctor bills directly; 16 per cent for paying all costs of insurance plans, and 47 per cent for paying part of the cost of an insurance plan. The remaining 21 per cent favored someone else's paying the bills.

Wanted: Old Photos of Physicians Driving Ancient Cars

The Illinois State Medical Society is preparing an exhibit centered around an Illinois medical journal article which told of the role of physicians in the development of the automobile in the United States at the turn of the century.

To help illustrate this exhibit, the Society will appreciate the loan of old photographs showing physicians at the wheels of cars of 1900-1910 vintage. Scenes showing difficulties on the road, or poor highway conditions, are especially desired. Enlargements will be made of these photographs and the originals returned undamaged.

Photographs should be accompanied by a memo giving the name and town of the physician, whether living or deceased, and the make and year of the automobile. They should be sent to Mr. John A. Mirt, Illinois State Medical Society, 185 North Wabash Avenue, Chicago 1.

More Medical Technologists on the Way

Enrollment in approved schools of medical technology has increased 30% since the National Committee for Careers in Medical Technology began its recruitment program four years ago, it was announced recently at the annual meeting of the Committee.

The Committee was founded by the American Society of Clinical Pathologists, the American Society of Medical Technologists, and the College of American Pathologists in 1954 to combat critical shortages in this health profession.

"This notable gain," stated Dr. William O. Russell, chairman of the Committee, "is especially gratifying in view of the urgent need for more qualified personnel to assist pathologists in the laboratory."

Emergency Identification for Patients on Anticoagulant Therapy

An "emergency" identification card for the protection of patients on long-term anticoagulant therapy is now available to physicians from the Rhode Island Heart Association.

The card, designed as a wallet insert, was developed as a result of requests from physicians seeking to protect their patients on anticoagulants in case of accident, dental surgery or other treatment that may induce bleeding. It points out that the bearer "is being treated with anticoagulants which slow down clotting of the blood." In case of emergency—bleeding, injury or illness—the card advises that a doctor be called, since the patient may require an antidote.

The card contains space for the name, address and phone number of the individual's physician. There is also space to indicate the kind of anticoagulant prescribed and the patient's blood type. The card was designed with the approval of the Committee on Prothrombin Determinations of the American Heart Association.

Physicians may obtain identification cards from the Rhode Island Heart Association at 100 Lockwood Street, Providence.

$2 Billion Health Insurance Benefits Paid in 9 Months

Benefit payments to Americans covered by health insurance through insurance company policies exceeded 2 billion dollars during the first nine months of 1958, the Health Insurance Institute reports. This represents an increase of better than 10% over the same period in 1957.

According to the latest Consumer Price Index of the U.S. Department of Labor, the cost of medical care in the country has risen by 4.5% over last year.

Reports from the nation's insurance companies showed that, from January 1 through September 30, 1958, benefits paid under group health insurance policies covering the costs of hospital, surgical and medical care and loss of income totaled $1.5 billion, an increase of 11% over the first nine months of 1957. Benefits through individual and family type policies, the Institute said, increased by 9% to 506 million dollars.

Of the five major types of health insurance—major medical expense, hospital expense, surgical expense, regular medical expense and loss of income—major medical showed the greatest increase in benefits paid.

Benefits received by holders of major medical expense policies, which help defray the cost of serious or catastrophic illness, increased by 89% over the same period last year to total nearly 167 million dollars. This sum, divided between the 162

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PROVIDENCE MEDICAL ASSOCIATION

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Communications

Doctor McWilliams called attention to the interim meeting of the Rhode Island Medical Society to be held at Newport on Wednesday, October 8. He urged attendance by the members of the Association.

The secretary reported communications from the headquarters of the 4th Missile Battalion, 68th Artillery, stationed at Coventry, Rhode Island, calling attention to its desire to obtain a part-time contract surgeon to serve military personnel attached to the unit. He also reported a communication from the G. H. Walker Company announcing the first of a series of eight lectures to be held at the Providence Public Library on the subject *Securities and Investing.*

Scientific Program

Doctor McWilliams noted that the case summary for the clinicopathological conference had been published in the official notice of the meeting sent to each member.

He introduced as a clinical discussor of the case Doctor Robert P. McCombs, of Boston, professor of graduate medicine, Tufts University Medical School; senior physician, New England Center Hospital.

Doctor McCombs presented in a very clear way all of the diagnostic possibilities of the case presented. Some of these were: trichonosis, periarteritis nodosum, delayed pencillin reaction, infectious polyneuritis, diphtheria with diphtheritic neuritis, dermatomyositis. His final conclusion was that the patient had diphtheria.

Doctor Samuel Burgess, pathologist, U.S. Veterans Hospital, Providence, briefly reported on the pathology of the case.

The final diagnosis according to the pathologist was trichonosis.

* * *

General discussion was opened by Doctor Simon Horenstein, of Boston, Instructor in Neurology, Harvard Medical School and Tufts University Medical School; Consultant in Neurology, U.S. Veterans Hospital, Providence.

A spirited discussion followed the presentation. Doctor McCombs as well as many physicians in attendance questioned the final diagnosis of trichonosis, despite the findings as reported.

Adjournment

The meeting was adjourned at 10:00 P.M.
Collation was served.
Attendance was 110.

Respectfully submitted,
MICHAEL DIMAIO, M.D., *Secretary*

THROUGH THE MICROSCOPE

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million dollars paid through group plans and the 5 million dollars paid to the holders of individual policies, already surpasses the 130 million dollars in benefits paid out during all of 1957. These figures, the Institute added, include policies written alone or to supplement the basic hospital, surgical and medical coverages.

Persons covered under hospital expense policies, which help pay for the costs of hospital care, received a total of 794 million dollars, with 622 million received through group policies, and 172 million under individual insurance policies.

Surgical expense insurance, which helps reimburse the insured for operations, accounted for 297 million dollars in benefit payments, with 242 million dollars going to those protected under group policies, and 55 million dollars paid to individual policyholders.

Payments by insurance companies to persons covered by regular medical expense policies, which help pay for medical care and treatment other than surgery, amounted to 56 million dollars by September 30, the Institute survey showed. Of this total, 49 million dollars was paid out under group plans, and 7 million dollars through individual policies.

Persons insured against loss of income due to sickness or disability received an estimated 595 million dollars as income replacement, with 376 million dollars paid through group policies, and 219 million dollars under individual policies.

In concluding its report of health insurance benefits paid by insurance companies, the Institute stated that the increase in such payments reflects the growing importance to the American people of health insurance as a means of helping finance medical care.

Popularity is a Challenge

First offered in 1950, Physicians Service has grown tremendously fast because it offers real help in meeting costs of a wide range of surgical-medical procedures.

Today, Physicians Service has the greatest percentage of enrollment of any similar plan in the country.

Great growth has been a challenge. It is a challenge to the doctors sponsoring the Plan to provide adequate, timely medical-surgical-obstetrical benefits for everyone who asks for them. What is particularly significant, Physicians Service protection has been extended to 80% of those living in Rhode Island who are over 65 years of age. No other similar program has extended its coverage so broadly.

Great growth is also an answer to a problem. For in spreading risks over more than a half million persons, costs have been cut down to a point where benefits are within the reach of everyone. And they are kept within reach, too, because Physicians Service subscribers can maintain their membership if they change jobs or retire.

In almost every instance, hospitalized patients require surgical, medical or obstetrical care. Physicians Service helps pay doctors' bills, pays for hundreds of different operations, provides X-rays and covers non-surgical visits in the hospital.

As time goes on, Physicians Service will continue to bring the most effective coverage possible to the most people.

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Medical Journal

DECEMBER, 1958

Prevention and Treatment of Cardiac Emergencies . . .
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AGAINST THE UBIQUITOUS HOSPITAL STAPHYLOCOCCUS

CHLOROMYCETIN®

Staphylococci are notorious for the variety of infections they cause and for their ability to develop resistance to certain antibiotics.[1-3] According to recent *in vitro* studies, however, these stubborn pathogens remain sensitive to CHLOROMYCETIN.[3-8]

Highly effective against most strains of staphylococci, CHLOROMYCETIN has been reported of value in treatment for such serious infections as staphylococcal pericarditis,[9] antibiotic-resistant postoperative wound infections,[10] antibiotic-resistant breast abscesses,[3,11] pneumonia due to antibiotic-resistant staphylococci,[12] postoperative staphylococcal enteritis,[13] and septicemia.[14,15]

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is available in several forms, including Kapseals® of 250 mg., bottles of 16 and 100.

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

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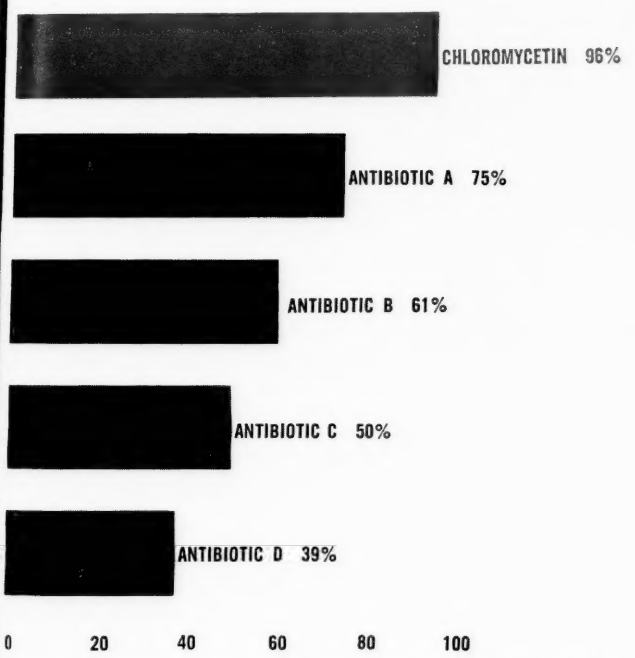
IN VITRO SENSITIVITY OF PATHOGENIC STAPHYLOCOCCI TO CHLOROMYCETIN AND TO FOUR OTHER MAJOR ANTIBIOTICS*



*Adapted from Godfrey & Smith.[1] Staphylococci studied were strains isolated from 28 patients in a general hospital.

THE HEALTH OF THE DOCTOR

TOO MUCH WORK and not enough play is an occupational dilemma the U. S. physician should resolve if he wants to keep up his own health standards.

Evidence presented in the current issue of PATTERNS OF DISEASE reveals that the average physician is so busy taking care of others that he doesn't have time to take care of himself.

Prepared by Parke, Davis & Company for the medical profession, PATTERNS OF DISEASE reports a special survey on physicians' health practices and standards. The survey, both the largest and most recent of its kind, was conducted among more than 9,000 practicing physicians under sixty-five years of age engaged in private practice in this country.

The U. S. physician undertakes a far heavier work load than the average person, "Patterns" reports. Half the physicians in this study reported a work week of fifty hours or longer—at least 20 per cent more than the accepted norm of forty hours. In fact, 13 per cent work sixty to sixty-four hours and 6 per cent eighty hours or more!

The result is he has very little leisure time. Close to 60 per cent of the physicians in the study stated they spend less than ten hours a week on recreation. Even the physician with a hobby has virtually no opportunity to pursue it. Of the 37 per cent who mentioned hobbies, for instance, half stated that they spent only four hours a week or even less on their particular hobby.

Vacations, too, tend to be inadequate. One out of twenty physicians reported they took no time off for vacations during the year, and more than one in ten took only a week or less.

Despite his crowded working schedule, the physician loses less time from work due to illness than the average man. Two thirds of the doctors in the "Patterns" study reported no time lost from work last year. The remaining third reported an average time of 3.8 days lost due to illness as against 7.4 days of work-loss by the average American man.

Occupational Hazards of Medicine

The practice of medicine poses occupational hazards, "Patterns" reveals. Illnesses resulting directly from their practice attacked one tenth of the physicians in the study during the past three years. Of these, three-quarters were laid low by infections and more than one-fifth developed allergic dermatitis or other forms of allergies. One in thirty with work-related illnesses was injured by over-exposure to radiation.

Does illness vary with the type of practice? Pediatricians are more prone to infectious diseases than their colleagues, according to "Patterns," and the risk of radiation injuries is greater among radiologists than other members of the profession.

Infectious and parasitic diseases are the commonest ailments among physicians. In the "Patterns" study, they afflicted approximately 30 per cent of all physicians reporting illness during the past five years. Cardiovascular diseases were the second commonest, being reported by about 10 per cent. Accidents and injuries, gastrointestinal disease, and allergy all ranked third, each being reported by about seven per cent.

In general, heart disease, sometimes called the doctor's disease, appears to be the leading mortality risk among U.S. physicians. Of causes of death reported among 2,700 physicians from July 1, 1957 to June 30, 1958, heart disease was the single or contributory cause of 50 per cent.

The highest death rates from coronary heart disease among physicians occur from the ages of 60 to 64, according to "Patterns." In the under forty-five age group, auto accidents ranked first as a contributory cause of death in the study, accounting for more than 40 per cent.

"Profile" of Average Physician

What's the average doctor like? From the results of its study, "Patterns" has assembled a composite "profile" of him. He is forty-four years old, 5 feet 10 inches tall and weighs 173 pounds. He works fifty-four hours a week, plays seven hours, and takes two-and-a-half weeks' vacation a year. His health record, at least in terms of his working schedule, is a good one. He only lost a fraction of a day from work last year, and has had one illness in the past five years.

if you were
in the rheumatoid arthritic's shoes,
Doctor...

wouldn't you want a steroid
with a proved record
of safety and success?

METICORTEN®

prednisone

you can count on rapid relief from pain, swelling and stiffness followed by functional improvement and maintained on an uncomplicated, low-dosage regimen **with minimal chance of side effects†**
and without unexplained weight loss, anorexia, muscle cramps
as reported with certain other corticoids†

†Round-table Discussion by Leading Investigators, San Francisco, Calif., June 20, 1958.

Schering

METICORTEN, 1, 2.5 and 5 mg. white tablets.

SCHERING CORPORATION · BLOOMFIELD, NEW JERSEY

MC-J-2288

why all the fuss over potassium?

Many physicians will recall when safe but potent organomercurials were first introduced. At the time there was considerable worry about possible potassium loss. Patients were instructed to take foods rich in this mineral, and not infrequently potassium supplements also were advised. After enough experience was gained, it became evident that only the exceptional case could lose enough potassium to be concerned about. And with oral organomercurial diuretics this was practically never a problem.

Why revive the subject now? Because clinical experience with nonmercurial diuretics indicates most of them have such a specific effect on potassium that with their use very real problems must be faced. Enough potassium loss can lead to digitalis toxicity or to a classical overt hypopotassemia. Since a fair percentage of cardiacs who receive diuretics are also digitalized, this excess potassium excretion is clinically serious. Clinical experience is still too limited with some nonmercurial diuretics to say just how often such loss will occur—but warnings already have been sounded by some clinical investigators as to the need for potassium supplementation.

Experience in many patients, for many years, demonstrates that potassium loss is never a problem when NEOHYDRIN® is the oral diuretic. And there is no refractoriness to this effective oral organomercurial.

LAKESIDE

THE RATIONALE FOR THE USE OF VITAMINS IN FORESTALLING INFECTIONS

Many clinicians believe that good nutrition plays a significant role in preventing bacterial infections, and that immunity depends on adequate vitamin levels. Tisdall[1] states that "a low intake of a number of vitamins, a low intake of minerals, and a change in the quality of protein can all lower resistance to infection."

Other studies show the important role of the B vitamins in antibody formation. Thus, *Nutrition Reviews*[2] reports: "Present evidence indicates that certain B vitamins, notably pyridoxine, pantothenic acid and folacin, play a significant role in antibody synthesis." According to Pollack and Halpern,[3] "Under-nutrition leads to increased susceptibility to infection and decreased resistance to established disease." And "vitamin deficiency states also may adversely influence circulating antibodies."

Halpern[4] reports that "good nutrition is important for optimal resistance to infection, for a superior tissue capability to cope with disease and injury, and for maximum antibody production . . . nutrition participates in the prophylaxis against most acute infections . . ."

And while MacBryde[5] feels that evidence is lacking to support the view that a higher than normal intake of vitamins will improve resistance to infection, he also states: "Restoration of nutrition to normal exerts a favorable influence on practically all disease conditions . . . Often the outcome will depend more upon the correction of the malnutrition than upon any therapy directed toward the malady."

THERAGRAN

SQUIBB VITAMINS FOR THERAPY

now expanded to include additional essential vitamins—
and at no extra cost to your patients

Each Theragran Capsule supplies:

Vitamin A	25,000 U.S.P. units
Vitamin D	1,000 U.S.P. units
Thiamine Mononitrate	10 mg.
Riboflavin	10 mg.
Niacinamide	100 mg.
Ascorbic Acid	200 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	20 mg.
Vitamin B_{12} Activity Concentrate	5 mcg.

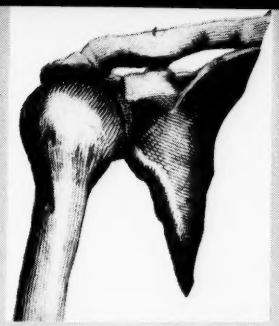
Dosage: 1 or more capsules daily as indicated.

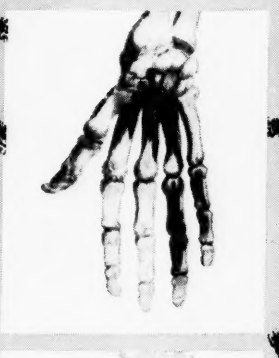
Supply: Family Packs of 180. Bottles of 30, 60, 100 and 1,000.

Also Available: THERAGRAN Liquid, bottles of 4 ounces; THERAGRAN Junior bottles of 30 and 100 capsules; and THERAGRAN-M (Squibb Vitamin-Minerals for Therapy), bottles of 30, 60, 100 and 1,000 capsule-shaped tablets.

References: 1. Tisdall, F. F.: Clinical Nutrition, ed. by Joliffe, N.; Tisdall, F. F., and Cannon, P. R.: Paul B. Hoeber, Inc., New York, 1950, p. 748. 2. Nutrition Reviews, *15*:47, (Feb.) 1957. 3. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 18. 4. Halpern, S. L.: Ann. N. Y. Acad. Science *63*:147, (Oct. 28) 1955. 5. MacBryde, C. N.: Signs and Symptoms, J. B. Lippincott Co., Phila., 3rd Ed. 1957, p. 818.

SQUIBB CENTENNIAL 1858 1958 SQUIBB *Squibb Quality—The Priceless Ingredient*





new, safer,
more comprehensive
anti-inflammatory,
antirheumatic,
analgesic

in rheumatoid arthritis, myositis, fibrositis, bursitis, and other inflammatory and rheumatoid conditions

PREDNYL affords prompt, dramatic relief from pain and muscle spasm, increased range of motion and often return to normal activity—because of . . .

3-way anti-inflammatory action: with potent prednisolone, water-soluble citrus bioflavonoid compound, salicylamide.

greater antirheumatic, analgesic effects: with less prednisolone and less salicylate than when either is given alone — minimizing risk of steroidism or salicylism.

protection: against steroid-induced capillary hemorrhage, gastric distress, vitamin C depletion.

dosage: Average, 1 to 3 PREDNYL tablets q.i.d., with gradually reduced dose to effective maintenance level. Bottles of 100 and 500.

"Much better– thank you, doctor"

Proven in research

1. Highest tetracycline serum levels
2. Most consistently elevated serum levels
3. Safe, physiologic potentiation (with a natural human metabolite)

And now in practice

4. More rapid clinical response
5. Unexcelled toleration

COSA-TETRACYN*

GLUCOSAMINE-POTENTIATED TETRACYCLINE

CAPSULES
(black and white)
250 mg., 125 mg.
(for pediatric or long-term therapy)

ORAL SUSPENSION
(orange-flavored)
125 mg. per tsp. (5 cc.)
2 oz. bottle

NEW! PEDIATRIC DROPS
(orange-flavored) 5 mg. per drop, calibrated dropper,
10 cc. bottle

COSA-TETRASTATIN*

glucosamine-potentiated tetracycline with nystatin

Antibacterial plus added protection against monilial super-infection

CAPSULES (black and pink) 250 mg. Cosa-Tetracyn (with 250,000 u. nystatin)

ORAL SUSPENSION 125 mg. per tsp. (5 cc.) Cosa-Tetracyn (with 125,000 u. nystatin), 2 oz. bottle

COSA-TETRACYDIN*

glucosamine-potentiated tetracycline-analgesic-antihistamine compound

For relief of symptoms and malaise of the common cold and prevention of secondary complications

CAPSULES (black and orange)—each capsule contains: Cosa-Tetracyn 125 mg.; phenacetin 120 mg.; caffeine 30 mg.; salicylamide 150 mg.; buclizine HCl 15 mg.

REFERENCES: 1. Carlozzi, M.: Antibiotic Med. & Clin. Therapy 5:146 (Feb.) 1958. 2. Welch, H.; Wright, W. W., and Staffa, A. W.: Antibiotic Med. & Clin. Therapy 5:52 (Jan.) 1958. 3. Marlow, A. A., and Bartlett, G. R.: Glucosamine and leukemia, Proc. Soc. Exp. Biol. & Med. 84:41, 1953. 4. Shalowitz, M.: Clin. Rev. 1:25 (April) 1958. 5. Nathan, L. A.: Arch. Pediat. 75:251 (June) 1958. 6. Cornbleet, T.; Chesrow, E., and Barsky, S.: Antibiotic Med. & Clin. Therapy 5:328 (May) 1958. 7. Stone, M. L.; Sedlis, A., Bamford, J., and Bradley, W.: Antibiotic Med. & Clin. Therapy 5:322 (May) 1958. 8. Harris, H.: Clin. Rev. 1:15 (July) 1958.

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*Trademark

PFIZER LABORATORIES *Division, Chas. Pfizer & Co., Inc., Brooklyn 6, New York*

FAST-ACTING ORAL BROAD-SPECTRUM THERAPY. The modern blue and yellow ACHROMYCIN V Capsules, combining equal parts of pure crystalline ACHROMYCIN Tetracycline HCl and Citric Acid, provide unsurpassed oral broad-spectrum therapy.

Speed of absorption adds new emphasis to the benefits of true broad-spectrum action, minimum side effects and wide range effectiveness that have established ACHROMYCIN as an antibiotic of choice for decisive control of infection.

REMEMBER THE V WHEN SPECIFYING ACHROMYCIN V. New blue and yellow capsules (sodium-free)—250 mg. with 250 mg. citric acid, and 100 mg., with 100 mg. citric acid.

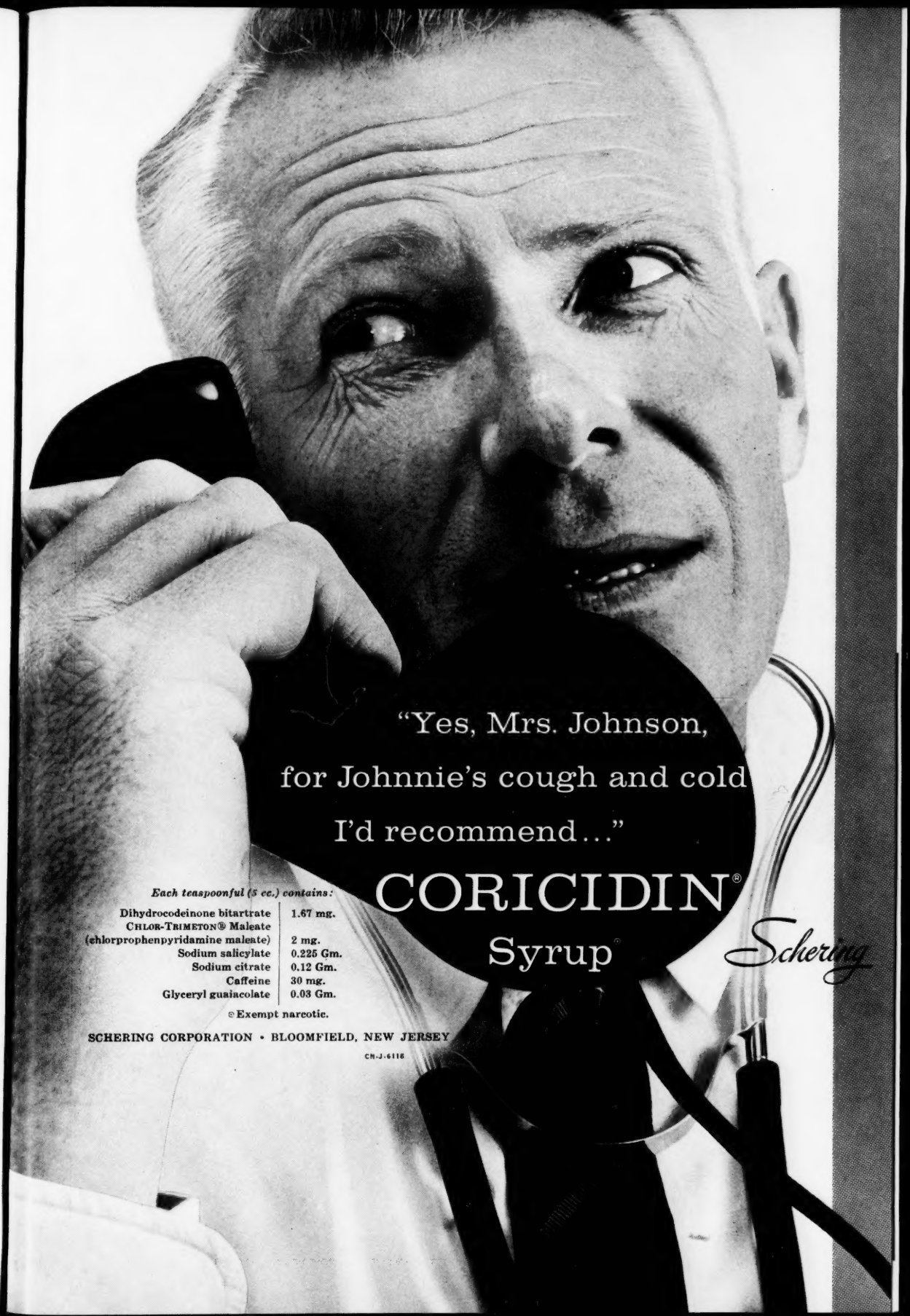
ACHROMYCIN V dosage: Recommended basic oral dosage is 6-7 mg. per lb. body weight per day. In acute, severe infections often encountered in infants and children, the dose should be 12 mg. per lb. body weight per day. Dosage in the average adult should be 1 Gm. divided into four 250 mg. doses.

ACHROMYCIN* V CAPSULES

Tetracycline HCl and Citric Acid Lederle

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

*Reg. U. S. Pat. Off.

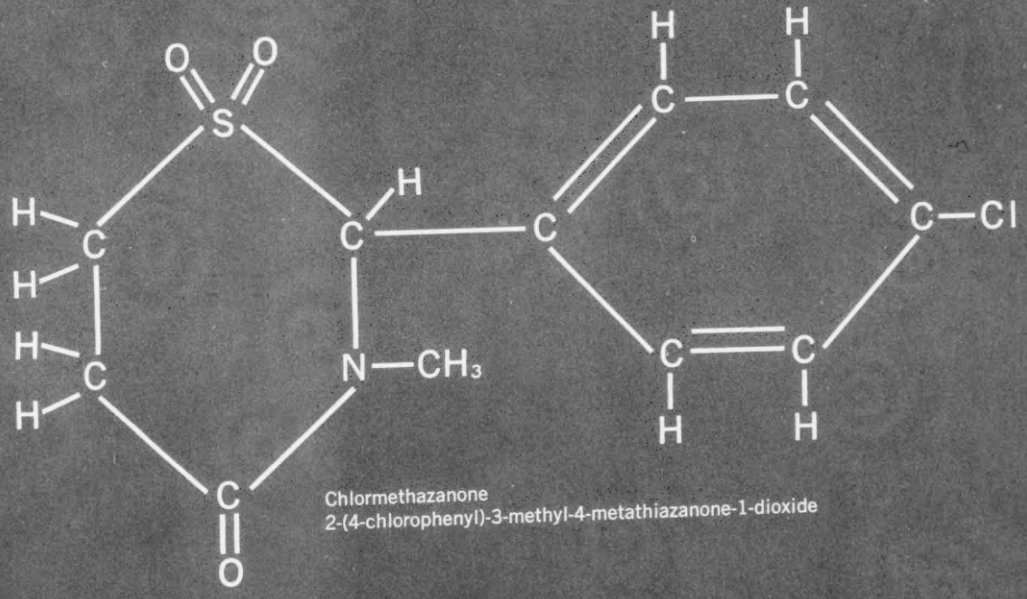

"Yes, Mrs. Johnson,
for Johnnie's cough and cold
I'd recommend..."
CORICIDIN®
Syrup
Schering
Each teaspoonful (5 cc.) contains:
Dihydrocodeinone bitartrate 1.67 mg.
CHLOR-TRIMETON® Maleate (chlorprophenpyridamine maleate) 2 mg.
Sodium salicylate 0.225 Gm.
Sodium citrate 0.12 Gm.
Caffeine 30 mg.
Glyceryl guaiacolate 0.03 Gm.
© Exempt narcotic.
SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY
CN-J-6116

Winthrop Laboratories introduces

Tancopal®

BRAND OF CHLORMETHAZANONE

a completely new major chemical contribution to therapeutics



Chlormethazanone
2-(4-chlorophenyl)-3-methyl-4-metathiazanone-1-dioxide

unrelated chemically to any other drug in current use

designed to be equally effective as both

a MUSCLE RELAXANT

a TRANQUILIZER

Trancopal

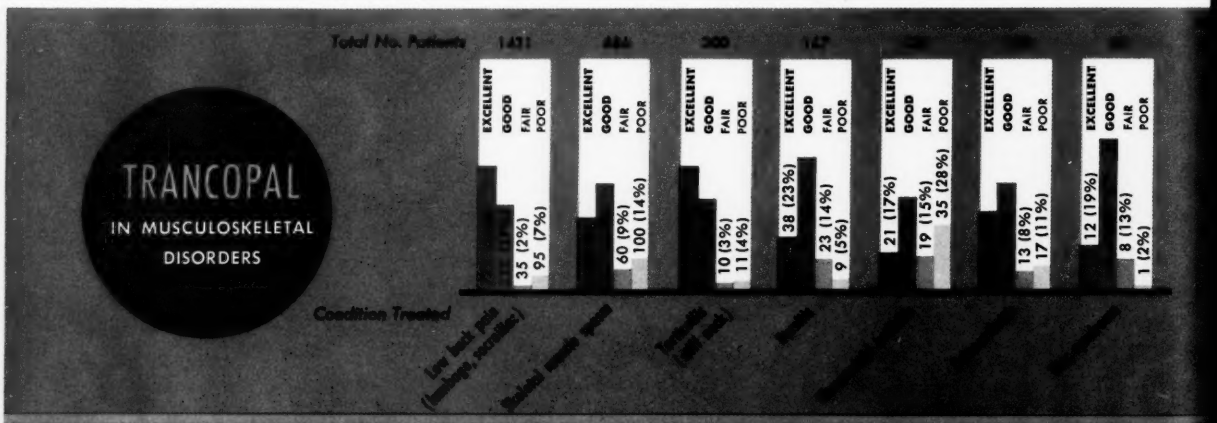
*the first true "TRANQUILAXANT"**

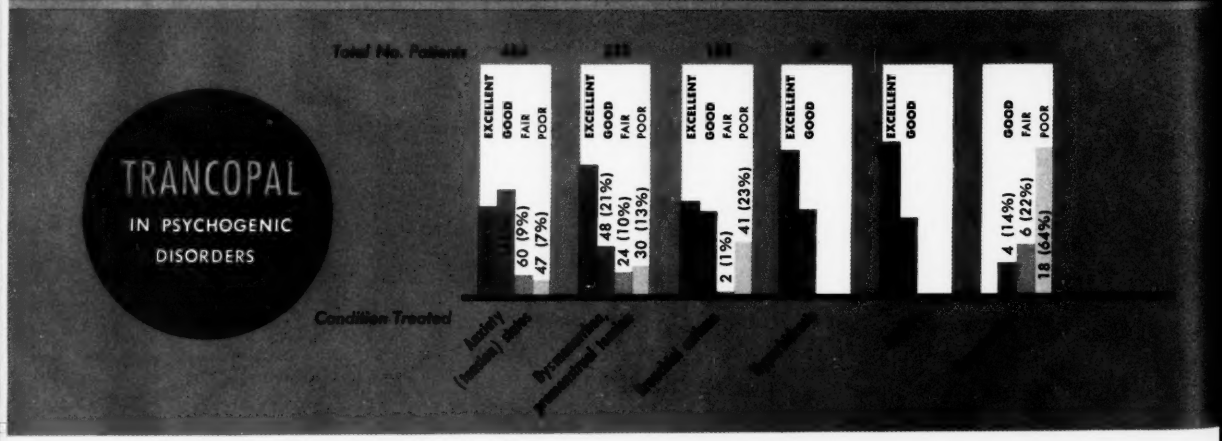
offering new freedom for your patients... from muscle spasm, from tension and anxiety, from side effects

* **tran-qui-lax-ant** (tran'kwi-lak'sant) [< L. tranquillus, quiet; L. laxare, to loosen, as the muscles]

EXCEEDS OLDER DRUGS UP TO 4 TIMES IN PERCENTAGE OF CLINICAL EFFICACY (Lichtman)

The results of clinical studies of over 4000 patients by 105 physicians demonstrate that TRANCOPAL often is effective when other drugs have failed. From these studies it is clear that TRANCOPAL probably can provide more help for a greater number of tense, spastic, and/or emotionally upset patients than any other chemotherapeutic agent in current use.





TRANCOPAL... the first true "tranquilaxant"

Both a muscle relaxant and a calmative agent.

In musculoskeletal disorders, 91 per cent effective.

In anxiety and tension states, 93 per cent effective.

Lower incidence of side effects than with zoxazolamine, methocarbamol or meprobamate.

No known contraindications. Blood pressure, pulse rate, respiration and digestive processes unaffected by therapeutic dosage. No effects on hematopoietic system or liver and kidney function.

Low toxicity. In animals, even less toxic than aspirin.

No gastric irritation. Can be taken before meals.

No clouding of consciousness, no euphoria or depression.

No perceptible soporific effect, even in high dosage.

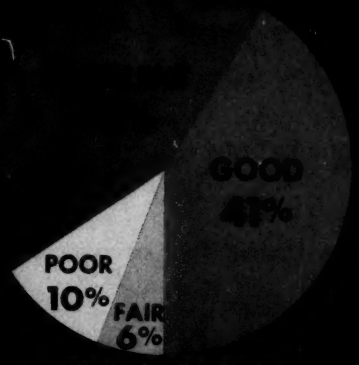
CLINICAL RESULTS IN 4092 PATIENTS

MUSCULOSKELETAL CONDITIONS
2929 Patients

+

PSYCHOGENIC CONDITIONS
1163 Patients

=



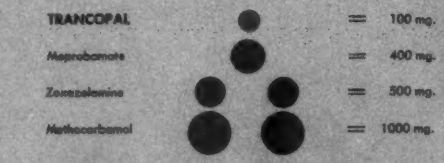
TOTAL 4092 Patients

MAJOR IMPROVEMENT
84%

Compare Trancopal with 3 widely used central relaxants

FOR ACTIVITY

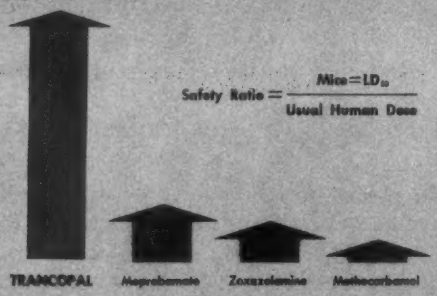
Single Dose



Daily Dose
Same as above, t.i.d.

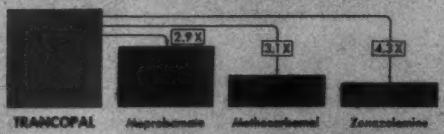
Considering the usual human dose, Trancopal, the first true "tranquilaxant," is four to ten times as potent per milligram.

FOR SAFETY



Comparative pharmacologic tests showed that Trancopal is up to thirteen times as safe, or up to thirteen times less toxic. The measure of safety was the LD_{50} in mice/usual human dose.

FOR CLINICAL EFFECTIVENESS



A clinical comparison in low back pain, torticollis, bursitis and anxiety states showed that Trancopal is up to four times as effective. Each of 40 patients received all four drugs in random rotation for several days. While each of the four drugs gave some relief, only the one providing the most effective relief was recorded.

INDICATIONS

Musculoskeletal
- Low back pain (lumbago)
- Neck pain (torticollis)
- Bursitis
- Rheumatoid arthritis
- Osteoarthritis
- Disc syndrome
- Fibrositis
- Joint disorders (ankle sprain tennis elbow, etc.)
- Myositis
- Postoperative myalgias

Psychogenic
- Anxiety and tension states
- Dysmenorrhea
- Premenstrual tension
- Asthma
- Emphysema
- Angina

Neurologic
- Muscle spasm in paralysis agitans, multiple sclerosis, hemiplegia, poliomyelitis

TRANCOPAL thoroughly evaluated clinically

"In the treatment of conditions associated with skeletal muscle spasm there was a high percentage of satisfactory results (excellent, good or fair) in 310 patients (94%) out of 331 treated. . . . In 120 patients with simple anxiety or tension states results were satisfactory in 114 (95%). Dosage of chlormethazanone in all cases was 100 mg. t.i.d. As well as relieving the anxiety or tension state, chlormethazanone also allowed these patients to resume their usual occupations." (Lichtman)

Trancopal

the first true "TRANQUILAXANT"

Dosage: One Caplet (100 mg.) orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours.

Supplied: Trancopal Caplets® (scored) 100 mg., bottles of 100.

Winthrop Laboratories • New York 18, N. Y.

• Baker, A. B.: Modern Med. 26:140, April 15, 1958. • Cohen, A. I.: In preparation. • Cooperative Study, Department of Medical Research, Winthrop Laboratories. • Gesler, R. M., and Coulston, F.: Toxicol. & Appl. Pharmacol. To be published. • Gesler, R. M., and Surrey, A. R.: J. Pharmacol. & Exper. Therap. 122:24A, Jan., 1958. • Gesler, R. M., and Surrey, A. R.: J. Pharmacol. & Exper. Therap. 122:517, April, 1958. • Lichtman, A. L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958. • Surrey, A. R.; Webb, W. G., and Gesler, R. M.: J. Am. Chem. Soc. 80:3469, July 5, 1958.

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ACHROCIDIN®

TETRACYCLINE-ANTIHISTAMINE-ANALGESIC COMPOUND LEDERLE

A versatile, well-balanced formula for treating common upper respiratory infections, particularly during respiratory epidemics; when bacterial complications are observed or are likely; when patient's history is positive for recurrent otitic, pulmonary, nephritic, or rheumatic involvement.

CHECKS SYMPTOMS: Includes traditional components for rapid relief of the traditional nonspecific nasopharyngitis, symptoms of malaise, chilly sensations, inconstant low-grade fever, headache, muscular pain, pharyngeal and nasal discharge.

Available on prescription only.

Adult dosage for ACHROCIDIN Tablets and new caffeine-free ACHROCIDIN Syrup is two tablets or teaspoonfuls of syrup three or four times daily. Dosage for children according to weight and age.

TABLETS *(sugar coated)*

Each Tablet contains:

ACHROMYCIN® Tetracycline	125 mg.
Phenacetin	120 mg.
Caffeine	30 mg.
Salicylamide	150 mg.
Chlorothen Citrate	25 mg.

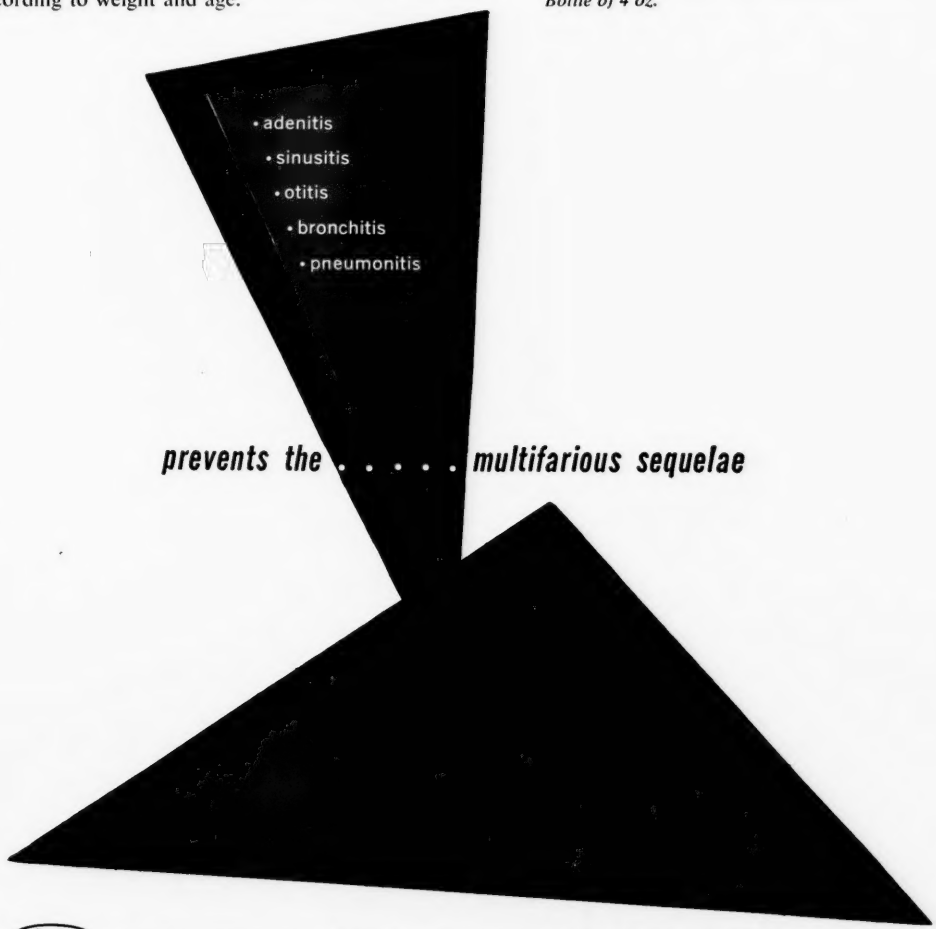
Bottles of 24 and 100.

SYRUP *(lemon-lime flavored)*

Each teaspoonful (5 cc.) contains:

ACHROMYCIN® Tetracycline equivalent to tetracycline HCl	125 mg.
Phenacetin	120 mg.
Salicylamide	150 mg.
Ascorbic Acid (C)	25 mg.
Pyrilamine Maleate	15 mg.
Methylparaben	4 mg.
Propylparaben	1 mg.

Bottle of 4 oz.



Lederle **LEDERLE LABORATORIES,** a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

In potentially-serious infections...

*TRADEMARKS, REG. U. S. PAT. OFF.

**TRADEMARKS, REG. U. S. PAT. OFF.—THE UPJOHN BRAND OF CRYSTALLINE NOVOBIOCIN SODIUM

†TRADEMARKS, REG. U. S. PAT. OFF.—THE UPJOHN BRAND OF TETRACYCLINE

††TRADEMARKS

The extra-firm mattress selected by over 9,000 doctors for their own use

Assures both preventive and corrective support—used in more American homes than any other special design

Sealy Posturepedic is the first mattress designed in cooperation with leading orthopedic surgeons to promote normal, healthful sleep among *all* persons.

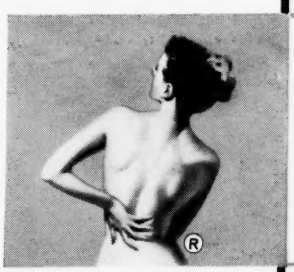
As a "corrective device" it serves those chronically afflicted with lower back syndromes. As a preventive measure Sealy Posturepedic brings deep spring buoyancy without bedboard hardness to everyone—plus the concomitant blessings of unexcelled comfort and extra-firm support.

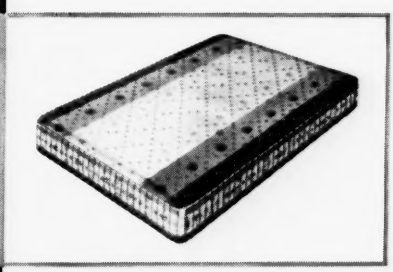
These are basic to good health. The therapeutic value of restful sleep is especially recognized during these tense and anxious days. Sealy Posturepedic eminently meets this need by supplying level spine support for proper relaxation of the limbs and human musculatory system.

Over 9,000 doctors of medicine have tried and bought the Sealy Posturepedic mattress and matching foundation for their own use. We believe your investigation will firmly convince you of its distinctive benefits, and, we would hope, merit your valued recommendation.

Sealy POSTUREPEDIC® BRAND

NO MORNING BACKACHE
from a too-soft mattress





PROFESSIONAL DISCOUNT OF $39.00

So that you may judge the quality of the Sealy Posturepedic for yourself, we offer a special Professional Discount on this mattress and foundation when purchased for your personal use. *Limit—one full or two twin size sets.*

SEALY MATTRESS COMPANY • 79 Benedict Street, Waterbury 20, Conn.

Enclosed is my check and letterhead. Please ship the Sealy Posturepedic Set(s) indicated below:

1 Full Size ☐ **1 Twin Size ☐** **2 Twin Size ☐**

	RETAIL		PROFESSIONAL
Posturepedic Mattress	each $79.50	(add state tax)	$60.00
Posturepedic Foundation	each $79.50	(add state tax)	$60.00

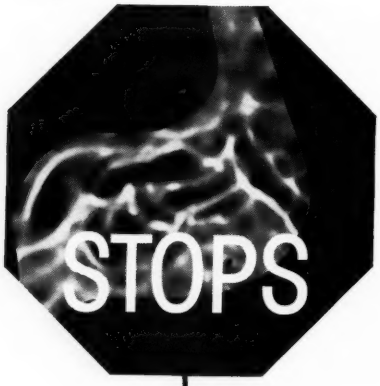
NAME_____

RESIDENCE_____

CITY_____ ZONE_____ STATE_____

(This is a saving of $39.00 per set over the regular $159.00 retail price for mattress and matching foundation)

*Compazine**



nausea and vomiting

—from virtually any cause

- in pregnancy—pre- and postoperative states—gastroenteritis—alcoholism—cancer and chronic diseases
- control is achieved with low dosage—usually 15 to 20 mg. daily—and often within a half hour after the first oral dose

'Compazine' is remarkable for its freedom from drowsiness. Patients carry on normal activities and often experience an actual alerting effect.

...for immediate control of severe vomiting:

Ampuls, 2 cc. (5 mg./cc.)

NEW: Multiple dose vials, 10 cc. (5 mg./cc.)

—always carry one in your bag

Also available:

Tablets, 5, 10 and 25 mg., in bottles of 50 and 500.

Spansule† capsules, 10, 15 and 30 mg., in bottles of 30 and 250.

Suppositories, 5 and 25 mg., in boxes of 6.

Syrup, 5 mg./teaspoonful (5 cc.), in 4 fl. oz. lightproof bottles.

Smith Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off. for prochlorperazine, S.K.F.
†T.M. Reg. U.S. Pat. Off. for sustained release capsules, S.K.F.

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